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AN INTRODUCTION TO OBJECTIVE PSYCHOPATHOLOGY

AN INTRODUCTION TO

OBJECTIVE PSYCHOPATHOLOGY

By

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TO

MARY SISSON HAMILTON

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PREFACE

This book is essentially a psychopathologist's account of his studies and interpretations of various modes of human and animal behavior. It is meant to reflect the importance of effecting such studies by the use of scientifically formulated methods of research as an essential supplement to the always useful but never quite trustworthy methods of field and clinical observation.

Disturbances of the human reactive equipment may vary as to seriousness from a mere habitual lack of poise to a grave form of insanity without lying outside the range of the psychopathologist's specific interests. All such disturbances reflect, in my opinion, faults in the development of identifiable responsive properties of the personality. My efforts to develop methods for the identification of such properties may seem, at first sight, to have led me far afield, since my researches have included not only nervous patients, relatively "normal" adults and children as subjects, but such animals as monkeys, cattle, dogs, cats, rats and gophers. There are, however, many justifying precedents for such a procedure in other fields of medicine; and as I have currently sought, over a good many years, to correlate my clinical findings with the findings of my field and experimental observations of these various human and animal subjects, there have appeared here and there certain behavioristic common denominators, as it were, which seem to me to be of value for an understanding of human behavior. The results of this work are here offered to physicians, social workers and lay readers who may share with me a hope that in time psychopathologic research will make possible the construction of textbooks devoted to systematic accounts of the human personality as an integration of adjustive functions, each of which may be regarded as playing a recognizable rôle in the determination of total response to particular types of situations.

Neuropsychiatrists who read this book will take it for granted, I am sure, that whatever is offered in the text by way of interpretations is done so tentatively. I have been trying out hitherto unexplored possibilities for psychopathologic research, and this has re-

quired the formulation of research methods which at best cannot be regarded as other than provisional, and greatly in need of refinement. If my book serves no other useful purpose than to focus attention upon the importance of method in psychopathologic research I shall be quite content.

I wish to acknowledge here my indebtedness to Miss Blanche Hardy of the Santa Barbara Clinic for much valuable assistance in the preparation of the text, and to Mrs. Gladys C. Terry, my present research assistant, for construction of the index and many helpful suggestions in the final correction of proof.

The nature and extent of my obligation to Professor Robert M. Yerkes could not be adequately acknowledged in anything less than an autobiography.

G. V. Hamilton.

New York City.

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FOREWORD

To have given helpful orientation, point of view, and suggestions of method to an eager student is satisfying to the teacher. To be rewarded by grateful acknowledgment even after that student has far out-run the master is overwhelming!

Ever since our first meeting in the Harvard Psychological Laboratory in 1905 Doctor Hamilton and I have been mutually helpful in a variety of ways. He was quick to see the applicability of certain essential methods and principles of Comparative and Genetic Psychology, and especially of objective psychology, to his professional interest, Psychopathology. Unlike many of his fellow students and practitioners he pressed insight and faith into the practical service of research and therapy. From that day to this—and well I remember his first experimental apparatus constructed and used at McLean Hospital, Waverly, Massachusetts, to study reaction types and tendencies in dogs—he has steadily, persistently, and brilliantly pursued his vision.

Though little known and less understood by psychologists and psychopathologists, Hamilton's discoveries are undoubtedly of fundamental and far-reaching importance. I am old enough to be rash on occasion, so I venture to predict that he will presently find himself the leader of a school of psychopathology which will as importantly modify our current conceptions of reaction tendencies and their relations as has psychoanalytic method our notions about mental content. My friend is too modest and distrustful of his insights to believe what I am writing, but those of his colleagues who are blessed with brains which guarantee open-mindedness presently will.

It is not my task to evaluate the author's case analyses and diagnoses, nor yet his hints about therapy. I am a psychologist, not a physician, and I decline to accept responsibility in strictly medical matters. When I speak of methods of psychobiologic research, such as Doctor Hamilton has devised and used with rare originality and skill, and the results of research in comparative and genetic psychology, I do so without apologies and with a measure of authority which is the natural reward of a lifetime of devoted and honest

effort. On this ground I affirm that the principles set forth in the second part of Doctor Hamilton's book are worthy of the most careful and critical study by those who are concerned in research or in practice with problems of human behavior. They demand reading, reflection, and re-reading. The facts which our author has gathered during five years of diligent research in laboratory, hospital, and private office are of compelling interest and significance. They are indeed but fragments discovered by new leads but they are sure to stimulate further research and thus to add invaluably to our knowledge of behavior, its conditions, relations, and modes of control.

The world is so full of ordinary books which picture the perfection of mediocrity and of conventional-mindedness—termed by our author most appropriately "sheepishness"—that it is a great pleasure by contrast to present to readers who have learned to expect little originality, constructiveness, or novelty in point of view, a book which applies the principles of objective and comparative psychology to psychopathology.

Now it happens that such originality as Hamilton's work indicates is rare, and almost as rare are those who can understand and appreciate departure from the "sheep-path." Therefore this introduction to an objective psychopathology by way of case studies will be rudely handled by many, neglected by others, greedily devoured and used as a stepping-stone to fuller knowledge and the development of methods of observation by a few.

I have written freely and frankly of the book which it is my privilege and pleasure to present to my fellow scientists and to "nervous" humanity because I know the status of psychiatry and psychopathology and know also their American personnel. When I say that the medical profession should be led or dragged into fuller knowledge and appreciation of the nature and importance of nervous and mental ills and of effective ways of managing them, I express myself mildly. The average general practitioner knows incredibly little about such matters. Happily he sometimes recognizes the fact!

I hail this little book with delight as the first chapter of a new and promising psychopathology. Is it too much to hope that it presages the dawn of a new day for mental medicine and that it may help to arouse the profession to the inadequacy of medical education in all matters pertaining to human behavior? Surely

neither medical schools nor the physicians molded therein can much longer continue to act as though the facts, principles, and methods of measuring human behavior were matters for neglect or for casual consideration instead of for systematic, accurate study by the best scientific procedures. As a layman I must marvel at this strange neglect of what appeals to common sense as preeminently important. As a scientist I must invite the attention of the medical profession to the new path which Doctor Hamilton has opened to them and to the possibilities of service which he vividly pictures.

Every physician, every teacher, everyone who deals with problems of personnel should read the book. Every psychologist worthy of the name, and doubtless many who are not, will read it! May the good word be passed along and may the work which Doctor Hamilton has so ably started be continued increasingly to the benefit of human nervousness and the dissipation of popular and professional ignorance concerning the nature, relations, and control of reactive tendencies and their accompanying modes of consciousness.

Robert M. Yerkes.

AN INTRODUCTION TO OBJECTIVE PSYCHOPATHOLOGY

PART I
CLINICAL PSYCHOPATHOLOGY

CHAPTER I
INTRODUCTION

The standpoint from which this book is written is suggested by its title, *An Introduction to Objective Psychopathology.* In Part II, which is somewhat technical, and in which are discussed the results of a good many years of research in animal, child and adult human behavior, objective psychopathology is fully defined and defended as less speculative than psychoanalysis and other forms of psychopathology which deal in terms of unconscious mental activities. It is sufficient for our present purpose to define objective psychopathology as a branch of medicine which employs the method of natural science in seeking to explain and deal practically with nervousness. Part I, which occupies about two-thirds of this volume, is offered to physicians and nonmedical readers who are unfamiliar with scientific psychology as a concrete illustration of how one may proceed to study nervousness without departing from methods which have given us chemistry and astronomy in the place of alchemy and astrology. No part of the book is offered as a popular treatise on nervousness, but the following preliminary explanations ought to render it fairly intelligible to persons who are not psychologists:

A nervous person is one whose modes of response to various stimulations are of a kind to interfere more or less seriously with his comfort and efficiency. If we had a complete knowledge of the various modes of response to stimulation which are typically and normally exhibited by the human organism we should be almost at the millennium as to capacity for understanding, not only

nervousness, but all kinds of disease. If we had also a complete knowledge of how and why each of the various normal tendencies to respond in a particular way to a particular stimulation may become modified by experience, our capacity for preventing and treating disease would be almost equally great. An illustration of this point is found in one of the more recent achievements of scientific medicine:

The body of the average adult who has never had typhoid fever tends to respond in a fairly typical way to the typhoid-germ stimulation, once these dangerous guests are swallowed and given an opportunity to multiply within the intestinal tract and adjoining parts. The essential part of this response is the elaboration of substances known as *antibodies* which, in patients who do not perish of the disease, overcome the typhoid bacilli. After the patient recovers his body is found to have been so modified by this experience with typhoid-germ stimulation that it tends to preserve a life-long immunity to the disease. All this has been so carefully studied in terms of the life-properties of the stimulating typhoid bacilli and the responding human organism that it is possible to vaccinate against this disease. Endless speculations based upon nonscientific observations of fact might have enabled our army medical corps to reduce the mortality from typhoid fever during the late war, but only scientifically ordered studies of the bacilli and of how the body tends to respond to them could have practically eliminated this scourge from the army camps at home and abroad.

It has been assumed in psychopathology that the simple methods of experimental medicine which have given us such wonderful discoveries as the one just described cannot be applied to a study of nervousness. There may seem, at first sight, to be adequate ground for this assumption. Many of the most striking and most easily reported and described abnormal responses of the nervous patient are *mental responses,* i.e., unpleasant sensations and feelings, crippling false beliefs, etc. Now a mental response cannot be taken to the laboratory and weighed, measured, tested chemically, looked at, or in any other way treated as a physical thing. It can be experienced by only one person, viz., the one who has it. How, then, is it possible to apply the experimental methods of the natural sciences (which deal in physical things) to the problems of

psychopathology? The surgeons, without realizing it, long ago pointed the way to a successfully objective method of dealing with mental responses. A single example will serve to make this clear:

Among the typical responses derived from the stimulations which are the causes of appendicitis, are rigidity of the belly muscles and pain of a particular kind, intensity and location. The pain is, of course, a purely mental response, and although in some cases it is accompanied by a fairly characteristic facial expression, this does not always occur. The pain is a response which begins and ends as something which the patient alone can experience, describe and vouch for in any way. The surgeon can experience the rigidity of the belly muscles by using his finger-tips, but the pain must always remain, as it were, purely hearsay evidence. Nevertheless, this type of mental response causes him no embarrassment. Out of many laboratories of biology and experimental medicine has come information which enables him to estimate the situation in terms of what to do about it. He knows that the human body is possessed of certain properties (*reactive tendencies*) which account for the fact that appendicitis-stimulations evoke particular kinds of mental response (the characteristic pain-symptoms) along with objectively measurable responses, such as the rigidity of the belly muscles, an increase in the number of the white cells of the blood, etc.

The hint contained in the surgeon's scientific and highly efficient method of dealing with mental responses made no impression upon me during my first few years of work as a psychopathologist, but shortly after I began to study comparative psychology under Professor Yerkes at Harvard in 1905 it occurred to me that although the abnormal mental responses of nervous patients cannot be dealt with as physical things, the stimulations which evoke them, and the responsive properties (reactive tendencies) of the organism which determine the specific nature of such responses may profitably be dealt with as physical, objectively measurable things. This very procedure had long been followed in surgery, and was now being followed in the laboratory of animal psychology at Harvard, hence I was encouraged to assume that it would pay to follow it in an effort to lay scientific foundations for an objective psychopathology. If the surgeon may profitably and legitimately assume that mental responses of appendicitis are traceable to the nature of the offend-

ing stimulations and to certain responsive properties of the body, why may not the psychopathologist assume with equal profit and legitimacy that the nervous patient's morbid fears or similarly hurtful mental responses are due to appropriate physical stimulations and to responsive properties of the physical body?

This view of the matter brought me sharply to a realization of the fact that there was available almost no scientifically established information as to how the human organism tends to respond to the great variety of stimulations which call for *adjustments of the body as a whole* to the outside world and which evoke attending mental responses (*psychical reactions*). A further difficulty lay in the fact that such responses are often very complex, and that unless the research student of human behavior wishes to permit himself the speculative latitude and uncritical habit of mind of poets and novelists, he is apt to encounter difficulties similar to those which confronted physiologists in the days when they had not learned to look to lower forms of animal life for clues to the modes in which human life manifests itself. Fortunately, the comparative psychologists had already begun to disclose by actual experiment the ways in which various animals tend to respond to known and measurable stimulations. With the facts thus available, and with access to much valuable information as to how one might proceed to study animal behavior experimentally, it was possible to formulate a program of research which may be roughly described as having had the following general aims:

1. To isolate a few of the more important types of situations to which the nervous patient is apt to respond abnormally.

2. To subject various mammalian species to such stimulations, to study their methods of response thereto and to isolate, if possible, responsive properties (reactive tendencies) which are common features of organization in the human species and in various infra-human mammalian species.

3. To include children and adult human subjects in comparative studies of behavior.

4. Once a given reactive tendency has been isolated, to explore for the principles which govern its modification by experience.

Baffling disadvantage seemed to me to be the most important general type of stimulation to which the nervous patient is apt to manifest abnormal responsiveness, hence a good deal of time was

devoted to experimental studies of animal and human reactions to a very simple and objectively measurable kind of disadvantage. From 1908 to 1917 I had exceptionally favorable opportunities for studying the reactions of monkeys to sexual and nonsexual stimulations, and throughout this entire period my work as a practicing psychopathologist kept me in touch with the concrete problems of the nervous patient. The results of this work are summed up in the last six chapters of the present volume.

Early in 1921 it became possible to set aside a year for intensive studies of nervous patients and to make all other considerations secondary to the research intention of this work. A city of about 30,000 inhabitants was chosen as the field for my year of research. It is a typical Mississippi Valley small city and the majority of its inhabitants have the traditional background and general scheme of values with which I was familiar during my boyhood and young manhood. There was every reason to expect that many of my patients would be persons whom I had known all my life, since it is the medical and business center of a section of the country with which I am more familiar than with any other part of the world. The town itself is a railroad town of some importance, and gives occupation to several thousand workingmen who are engaged in the manufacture of safes, stoves, table glass, bottles, shoes and bakery products. It has a relatively small foreign-born population, most of its inhabitants being descendants of pioneers from Virginia, Kentucky, Pennsylvania and New Jersey or from Germany and Ireland. These various strains have had time to fuse and produce a community of people who have common major traditions.

No psychopathologist had ever practiced in this community and during my entire year of work there I did not encounter a single patient who knew anything about psychoanalysis, and only a few who had even a smattering of any other kind of speculative psychopathology. Most of my patients assumed that nervousness is due to physical causes, and that it is to be overcome by the use of "nerve tonics." I encountered, in consequence, naïve attitudes toward nervousness, and did not experience the usual difficulty in persuading patients to give simple statements of fact rather than endless recitals of opinion derived from the dogmas and speculations of the proponents of "subconscious" and "unconscious" minds.

The local physicians displayed a most generous spirit in making

my office a clearing house for their nervous cases, so that my research may properly be regarded as a psychopathologic survey of the community as a whole. Patients were accepted as they presented themselves for examination, and since my living expenses had been provided for in advance, it was only necessary that the fees be sufficient to cover office, automobile and similar expenses. Many interesting but time-consuming cases were treated gratuitously, and the more prosperous ones were charged merely nominal fees. It may be said, in passing, that in the end I grew so fond of the community that I was most reluctant to leave it.

An effort was made throughout the survey to give each patient a full hearing and to reject from my records only such material as was obviously irrelevant to explanations of the symptoms encountered. Specifically directive questions were avoided as much as possible until the patient had talked himself out in response to the following general questions:

1. What are your present discomforts and disabilities? Give me a complete list of them, regardless of what you may have been told as to their imaginary nature.

2. Endeavor to give me an absolutely frank account of your family, your neighbors, your job and your economic problems in terms of what you think and feel and do about them. You need have no fear that, in the circumstances, frankness will involve disloyalty to anybody: it is your obligation to get well for the sake of those who are interested in you, and I can't help you unless you are frank with me.

3. Tell me all about your sexual life: I wish to know as much as possible, not merely about your sexual acts, but about all the troublesome, shameful, painful difficulties which you may have had or may now have with sexual urges. Do not forget that everybody has a lot to blush about in recalling these things. It will be helpful to know your past and present attitudes and convictions with reference to sexual matters. You must be absolutely frank with me, else this examination cannot profitably be continued.

4. Give me a brief sketch of your life in chronologic order. This should include information concerning your family history, your successive relations to the family situation, illnesses which you have had and all past events which you may regard as having been factors in the production of your nervousness.

These questions were not always asked in the above form and order since it was often necessary to obtain the patient's confidence before it seemed wise to intimate to him that such information was sought. After his story had been obtained all apparent causes of his nervousness and all apparently hurtful reactions to such causes were taken up as separate topics for discussion. I found it helpful at the outset to explain to the patient that we are all inclined to turn our mental backs upon recollections and inward promptings which might seem, if squarely faced, to impeach us before our own eyes as unworthy persons. My familiarity with local idioms and traditions made it possible to amplify this bid for frank accounts of mental reactions by using illustrative examples and similes which fitted into the individual patient's own experience.

As might have been expected, my attention was especially apt to be caught by reactions which I had already identified in the monkeys, children and previously studied patients; but since the work had an exploratory intention from its inception, and was not directed toward the solution of narrowly defined problems in psychopathology, I do not believe that my theoretical expectations unduly influenced my methods of examining patients.

There were no facilities for studying the basal metabolic rate of thyroid cases, and very few of the patients could afford to go to one of the larger cities to have this work done. An excellent state laboratory service made it possible to have Wassermann tests in all cases in which syphilis was suspected. Each patient was given a physical examination as a matter of routine, and all doubtful cases were referred to one or more of my colleagues in other fields of medicine for diagnosis.

The obvious impropriety of including any identifying statements in the discussion of cases which follow must be taken to justify the omission of many details which ought, ideally, to be included. The patients were drawn from a relatively small community, and it is quite possible that this book will fall into the hands of persons who would find a nonscientific interest in an exposition of the affairs of persons known to them, hence I have taken the necessary precautions to protect those who have taken me into their confidence from a betrayal of their identity to any persons but themselves.

The medical reader will doubtless be disturbed by the absence of familiar disease-names and by the classification of patients according to the faulty modes of response presented by them. A scheme for classifying nervous disorders by Kempf[2] has seemed to me to be too speculatively grounded to be of value in a textbook of objective psychopathology, and I do not believe that this branch of medicine has had sufficient development along scientific lines to justify any of us in inventing disease-names for disorders which may not prove to be disease entities. Adolf Meyer's[3] summing-up of this problem is authoritative, and of value as disclosing the difficulties in the way of making hard and fast classifications in psychopathology.

Lay readers and even psychologists are apt to find that some of the medical terms employed in the discussion of cases are unfamiliar, and the medical reader may be perplexed here and there by my use of a technical psychologic term. For the convenience of all three classes of readers such terms will be defined in a glossary of unfamiliar terms. There is one expression which occurs many times in the text, and which is employed to designate such familiar and hurtful types of response to stimulation that it will be given separate definition here. It is the term, *persistent, non-adjustive, affective reaction.* An affective reaction is simply a state of feeling which one has in response to some stimulation or other. Thus if you assure me that my book is mere twaddle, and if I respond to your statement by feeling depressed, my feeling of depression is an affective reaction. The word *feeling* would have been used in place of *affective reaction* if it were not that the former word is often used to designate sensation. A sensation is not, technically speaking, a feeling at all, but a mental response which conveys to you the information that a particular part of your body is being acted upon by a stimulus of a particular quality, intensity, etc. The pressure of a bit of cold steel against my temple will give me a sensation about which I may have no feeling at all or a very lively feeling, according to circumstances. If I am trying to calculate the angle at which a person unknown to me held the pistol with which he shot himself, and in so doing press the pistol-muzzle against my temple, I may have merely a sensation of pressure and one of coldness, but no particular feeling about it; but if the pistol

is in the hands of a footpad I may have, in addition to these sensations, a feeling quite appropriate to the occasion.

Many feelings (affective reactions) incite us to do something in a prompt and efficient way about the stimulations which evoke them. Thus if you tell me that my hat is dingy and five years out of style I may feel so ashamed of my slovenly appearance that I am impelled to settle matters for the next few years by promptly purchasing a new hat. But if you tell me that I am an incompetent doctor, and that I may never hope to become a competent one, I may feel so inferior and so perplexed to know what to do about it that I merely flounder in my efforts to become more competent, and never make any headway in this direction. My feeling in this case is nonadjustive, i.e., it does not push me to an effective solution of the problem created by my real or imagined professional inferiority. If, now, my feeling of inferiority not only fails to lead to a satisfactory adjustment to the cause of it, but is experienced by me at more or less frequent intervals over the days and weeks and months, my response to your unkind remark is a *persistent, nonadjustive, affective reaction.*

CHAPTER II

TWO HUNDRED NERVOUS CASES

CASE 1. FEMALE. FOURTH DECADE

Conditioned Inhibition of Normal Responsiveness to Sexual Urges and Acts. Persistent, Nonadjustive, Affective Reaction to Baffled Major Cravings.

Symptoms: A haunting sense of craving something intensely, without which life is utterly bleak, but no idea as to what it is she craves. A persistent feeling that she has nothing to live for. Attacks during which she feels weak and fears that she will die for lack of the will to live. Fear of suicide. Sometimes is afraid to go to sleep. A lonely, depressed feeling which comes over her in waves.

Physical Factors: None.

Discussion: This patient was in her early thirties when she came under observation. She seemed to be an attractive, sensible young woman, and to have made a determined struggle to ignore her symptoms. She stated that she loved her husband and lived harmoniously with him. They had two children, to whom she was much attached. The husband was prosperous, and there was no friction between them as to how the scale of family expenditure should be regulated. She had a pleasant social life among friends of her own general capacity, background, etc. The family physician, who was present throughout the examination, verified the above statements, and later assured me that the patient was an honest, dependable person.

She was requested to discuss her sexual life with the greatest possible freedom, hence I suggested that the family physician leave us. She assured me that there was nothing to tell which she was unwilling to have him hear. The first bit of information was to the effect that she was wholly anesthetic as regards specifically sexual responsiveness to copulation. She invited and enjoyed her husband's caresses, and was glad to submit to him sexually because he derived pleasure from the act; but copulation always made her

vaguely uncomfortable, not in a physical way, but because it seemed a rather nasty and degrading thing to do.

She was then asked to give the most intimate possible account of the wedding night. This brought the information that when she first went to bed with her husband after their marriage she was startled, then shocked and disgusted by the termination of their tender demonstrations in copulation. As soon as he released her she fled from the marriage bed to one in another room. He followed her and, evidently with a good deal of tact, explained to her the general rightness and decency of copulation between persons who are married. She saw the reasonableness of his point of view, and her affection for him suffered no impairment. The second night of their marriage she submitted to copulation without resistance. She not only felt that it was her duty to do so, but also craved all the tender demonstrations which preceded the act itself. That night she "almost felt that there was something in it," but she never again had sexual feelings during copulation. After she had given this information she exclaimed, "Isn't it funny! I had forgotten all about those two nights."

"Now let us see if you can't recall other things which you have forgotten all about," I suggested, and expressed the opinion that she would regain her long-lost happiness if she could find courage to continue her account of herself in such a frank and honest way. I asked her to give me the most intimate possible account of her sexual life from early childhood until her marriage. At first she said, quite simply, that there was nothing to tell—that she was a greenhorn when she married. But as she traced her inner life from far back in childhood she seemed to forget every consideration but a desire to meet my request for searching frankness. This often easily obtained *rapport* between patient and examiner will usually render it unnecessary to resort to the time-consuming methods of dream interpretation and free association. The family physician was a fascinated auditor to the following freely, uninterruptedly narrated account. He sat with his back to us, at some distance from the patient and myself, blushing self-consciously if I did not mistake the significance of his drooped head and flushed back of the neck:

Until the patient was twelve she lived in the country with her parents. She had a general notion that people are like animals in

their sexual relationships, and seems to have had the properly brought-up little country-girl's matter-of-fact attitude toward what the future might hold for her. At twelve she went to the city to live with a childless aunt and uncle who wished to give her the advantage of a city schooling. The uncle was her mother's brother, hence she felt better acquainted with him than with the aunt.

One night a storm came up shortly after she went to bed, and her uncle came into her room to close the windows. After this was done he sat down on the edge of her bed and began to pat her affectionately. She thought nothing of this: he was her uncle, and she was lonely and a little homesick. Before she realized what he was doing he had his hand under the bed covers and was pressing her genitalia in a way which she found agreeable, but thought rather shocking. He teased her a little, and after he left she felt both ashamed and thrilled.

After that first night he made a practice of going to her room after she and her aunt had retired to their respective and rather distantly separated rooms. She both welcomed and resisted the visits and the events to which they led. Little by little her uncle increased the latitude of his efforts to masturbate her, until at some time before her fourteenth year she was having definite orgasms in response to his attentions. All the while she felt guilty, and would often resolve to resist him more effectually the next time.

When she was about fifteen she fell into a habit of inviting a school friend to spend the night with her. One night the uncle made an excuse to visit her room when both girls were in bed. The girl friend was frankly, shamelessly erotic in response to her uncle's fooling, and before long he and the friend copulated in her presence. The sight of the copulating pair initiated a growing sense of revolt against the whole nasty mess. Her uncle made his behavior still more disgusting by introducing immodest variations. Thus he would pay the friend to masturbate him and sought to induce the niece to do likewise. She undertook to do this once, but found it too disgusting to continue to the critical point.

During this period she made a resolution to "kill all feeling for that sort of thing," but, in spite of her disgust she could not wholly inhibit her responsiveness to the increasingly abandoned sexual orgies which were held in her room, led by the uncle and the friend. Her uncle never copulated with her, but for a long time she had to

fight a desire to have him do so. One night, when she was about sixteen, she was in her room alone in bed and half asleep. Her uncle got into bed with her, and before she was aware of his intention he got on top of her and made a definite effort to enter her. The sight of his bald head, lustful face and middle-age unsightliness brought to her an overwhelming sense of loathing for sexuality and for her uncle as the symbol of male sexuality. Before he could enter her she wriggled out from under him, threatening to scream if he forced her. He was frightened by her fierce anger ("I never saw you act like this before"), and hastily retreated to his room to escape her angry denunciations. After he left she lay in bed thinking over the events of the past few years. Finally a fierce anger toward her uncle overcame her. She leapt from her bed and went to the room where her aunt and uncle slept. She stood over his bed and screamed, "You devil!" The aunt awoke, startled, and asked for an explanation. The patient suddenly realized the unwisdom of her behavior, and pretended that she had been frightened by a bad dream, and did not know that she had left her own bed. The aunt, who must have been a most unsuspecting person throughout, was apparently satisfied with the explanation.

From that time until the second night of her marriage the patient was sexually anesthetic, but for a year or so after her acquisition of an automatically effective habit of completely inhibiting direct reaction to sexual stimuli she took a perverse delight in her coldness. She was gratified to find that she could permit the boys to kiss her, feel her breasts and legs, and otherwise deal with her erotically, and yet remain absolutely cold. Her entire lack of sexual feeling was regarded as a mark of distinction by her girl friends, among whom she was known as an inveterate "teaser," sexually anesthetic and a virgin in spite of her close friendship with a group of very bad boys and girls.

After a time she became disgusted with the nastiness of her friends and resolved to observe the conventional proprieties of life. She returned to her father's home, and became a very orderly, dignified, young woman. Her memory of her wild 'teens seemed to fade, and left her somewhat as does the memory of any shameful event which one instinctively bars from consciousness. There was never any true amnesia for the above-described events. When she

had finished her account she remarked naïvely, "I don't see how all that could affect me now: I haven't even thought of it in years."

The family doctor knew the uncle who played such a shameful rôle in this history, and had always assumed that he was an upright, sincerely Christian man. The story was, for him, intensely dramatic, and as he joined the patient in requesting my evaluation of her history, his enthusiastic belief that we had discovered the essential cause of her symptoms obviously impressed her. It was explained to both of them that the patient's revolting experiences in her uncle's house had conditioned her to react to all sexual urges as to forbidden things, which must be denied representation in awareness in the form of consciously held desires. She had even been conditioned to inhibit the rise of normal sensual feelings during the acceptable caressing to which her husband subjected her at her own solicitation. The mechanisms of conditioned responsiveness were explained to the patient as simply as possible, and with homely illustrations of this type of behavior.

Her lonely, empty, unsatisfied, depressed moods were ascribed to her failure to obtain what she really craved, viz., biologically complete responsiveness to the husband whom she loved and whose caresses she sought and received but could not respond to in a normal way.

The patient's family doctor is a man of good training and capacity, and it seemed best, in the circumstances, to delegate to him the task of keeping the patient reminded of the need of acquiring habits of direct, unresisting responsiveness to the formerly inhibited urges. Not long before I left I visited the town in which the patient and her doctor live, and he reported satisfactory progress. The sexual anesthesia had been overcome, and the nervous symptoms had abated.

CASE 2. FEMALE. FIFTH DECADE

Indirect Reactions to Inhibited Exhibitionistic Urges.

This case came under observation late in the survey, and there was not sufficient time available for an exhaustive study of it. It is presented here because of its many points of interest to the student of inhibition of sexual urges and of consequent indirect reaction thereto. The first ten cases will introduce the reader to bio-

logic principles which have been derived, in part from my experimental and field studies of sexual behavior in monkeys, in part from field studies of the sexual behavior of adolescent boys and to a very considerable extent from an objective evaluation of Freud's discoveries.

The patient was one of a large family of children. One of her earliest memories refers to her father's practice of lining the children up in a large room on Saturday afternoons in order to bathe them. The room was bare of furniture, and in the center of it was a large laundry tub of warm water. Near by, on the floor, were pails of water, soap and towels. The children were required to strip naked and stand in line for a quick soaping, a dip into the tub, some scrubbing and a brisk rubbing with a towel after they had been "rinsed" with clean water from one of the pails.

She had always accepted these Saturday afternoon bathing parties as natural events in her life until one summer's afternoon, when she was about eight years old, when her ten-year old brother suggested a pleasant game for a hot afternoon. They dragged a laundry tub into the back yard, filled it with cold water, stripped naked, and played together in the tub of water. The tub of water, and not the nakedness, as she recalls it, was the central point of interest. The brother and sister were accustomed to seeing one another naked, and took that part of it in a matter-of-fact way.

She was wholly absorbed in the fun of splashing in the cool water when her brother gave a terrified gasp and ran away and hid as if he were ashamed. She then saw approaching a grown-up person (identity not yet recalled when the survey terminated) who seemed to be greatly shocked by what had been going on. The patient held her ground, innocent, at first, of a sense of wrongdoing, but she was severely reprimanded for such shameful behavior. It was impressed upon her that this was the most shameful thing that a little girl could do—to expose her naked body to a little boy, even though he were her own brother. The impression in the patient's mind is that the person who administered the rebuke was neither her father nor her mother, but a person whose opinion had much weight with her.

Ever after this episode she felt acutely ashamed of exposing her nakedness to her brothers and father at the Saturday afternoon bathing parties. She recalls as an especially painful experience an

afternoon when an uncle was present while her father was bathing the children: "I thought that I would die, to have to stand there and let my uncle see me naked."

Dating from her critically acquired conviction that self-exposure was an evil thing, began an uneasy inner life, with a good deal of self-examination and fear of her own sensual urges, vaguely erotic imaginations, etc. She was at first merely fearful of exposing any part of her body which was supposed to be concealed by clothing; but there gradually developed a reluctance to expose the more intimate workings of her mind. She could not obtain a sense of intimacy in her friendships because she was unable, somehow, to bring herself to permit her friends to "look into her heart," although they seemed to expose their inner lives to her freely and spontaneously. This inability to experience an intimate sense of friendship tormented her, and gave her a sense of loneliness which persisted ever afterward.

When she was about sixteen she began to strive for religious conversion according to the teachings of the Methodists. A generation ago there was a thinly veiled erotic *motif* involved in the ecstasy of conversion *a la Wesley*, including a distinctly exhibitionistic element. She longed ardently for the wonderful experience that would efface all previous sins and make her heart pure, but conversion never came. Just as she seemed to be held back from exposing her ankles, or from giving intimate glimpses of her inner life to her friends, so was she unable to expose her soul to God. Her failure in this respect was formerly evaluated by the Methodists: it is resisting the Holy Ghost, and if it is persisted in too long, that member of the Trinity becomes permanently offended and refuses ever to come again. One thus comes to a commission of the "unpardonable sin"—else why was she never able to experience conversion?

At twenty-two she married a kindly, tactful man whose excellent management of his psychoneurotic wife probably saved her from more serious morbid developments. It was a torture, at first, to expose herself to her husband, but he successfully seduced her after their marriage, and her subsequent sexual relationship to him was surprisingly normal. She had seven pregnancies. The first was badly mismanaged: "The doctor pulled on the cord, the baby died, and my pelvic organs were never right after that." There

followed two miscarriages, neither of which was self-induced. The fourth, fifth and sixth pregnancies resulted in the birth of living children, but they died, respectively, at the ages of seven days, three months and seven weeks. These children were "too frail and sickly to live." The seventh pregnancy resulted in the birth of a child which was living at three years and in fair health. The possibility of syphilis as a factor in this history was excluded. It was always a trying ordeal for the patient to submit to the ministrations of the obstetrician during confinement, but she appreciated the unnaturalness of her attitude and did her best to overcome her reluctance to submit to the necessary exposure.

About five years before she came under observation the following episode immediately preceded the development of active psychoneurotic symptoms: she felt need of a vaginal douche and, to her subsequent surprise and chagrin, chose a place by a downstairs window which looked out upon a pump in the yard only a few feet away. She took this douche at a time when a neighbor boy was accustomed to come to the pump for water. *She did not even draw down the shade!* As she sat on the chamber jar, taking her douche, she looked up and saw the boy at the pump. He may not have seen her, but he could easily have done so. There immediately followed a morbid fear that chips of china from dishes and bits of glass from fruit jars might fall into the food. From that time until she came under observation she found that washing dishes was a panicky business, and gave up preserving fruit altogether. It was only dishes which *she* washed or fruit which *she* preserved that she feared as possible containers of fragments of china or glass.

After the birth of her last and only surviving child she had an annoying vaginal discharge, and rather than employ a physician and thus be required to expose herself she purchased some patent suppositories, which she used with somewhat beneficial results. About one year before she came under observation, and coincident with the onset of the menopause, a small child which had been playing on the floor in her bedroom fell ill a few hours after it returned to its own home, and died the next day. An uneasy thought came to her mind that a bit of one of the suppositories might have trickled from her vagina to the floor; the child might have touched this with its fingers, might have carried its fingers

thus contaminated to its mouth, and thus have poisoned itself. She trusted her husband's judgment in all matters of importance, but could not feel reassured by his explanation of the impossibility of what she feared. There followed a rapidly increasing fear that invisible portions of the suppositories might have been smeared about the house; that in dusting and sweeping she might touch these particles; that her fingers, thus contaminated, might convey the poisonous stuff to the food which she prepared for the family, the dishes off which they ate, etc., and, finally that she might thus poison her husband and child. She was so dominated by her fear that all activities involved in the preparation of food, the washing of dishes, etc., had to be turned over to a sister who came in for this purpose.

On first examination the patient's expression was that of painful anxiety, she was very thin, her tongue was a fiery red and had a peculiar granular appearance, she complained of a heavy pain in the epigastrium, and was stubbornly constipated. Her pulse rate was persistently above 90 until her improvement began, several weeks later. She was agitated; felt tired and worn; her head "buzzed"; felt "queer" and was sore inside. Her insight was more apparent than real; she repeatedly declared that her fear of spreading the suppository poison was senseless, but whenever she undertook to amplify this statement she defended the grounds for her fear with considerable feeling.

During the second examination I called for the box of suppositories, unwrapped one, bit off a piece and ate it. The patient afterwards told me that this at once weakened her underlying conviction that the suppositories were poisonous, but that it caused her great anxiety lest her husband would report my death on his return from work in the evening. This effort to reassure her had no substantial value, and was expected to have none, but it served to convince her of my faith in my own propositions.

She was very reticent at first, but once she was convinced that it was as right and decent, and as much a matter of duty to expose her inner life to me as it had been to expose her person to the doctor whose good management made possible the birth and survival of her little boy, she was quite accessible. She seemed to find relief in giving the above account of herself to me. There was a great deal more to do for this patient and a great deal more to find out

about her than the time which remained for my survey would permit. After I had obtained the information which is given here, I explained to her the biologic value of the little girl's urges to expose her person to favored males and the mechanisms of indirect psychical and behavior reactions to such urges when they become automatically inhibited. *She was obviously reacting, not only to an urge to gratify her inhibited exhibitionistic longings, but to fear that she might experience and give way to such longings.* The incident of the douche before the unshaded window was an example of indirect reaction to longings for exhibitionistic satisfactions. The absurd fear that she might poison somebody with something which had been in her vagina or which might be used for treatment of the vaginal discharge was an example of indirect reaction to an inhibited fear of becoming aware of the forbidden longing, etc.

She had no cultural background for a ready appreciation of such explanations, but her natural intelligence was good, and she gained enough insight to make a considerable improvement possible. The tachycardia and the symptoms of gastric dysfunction disappeared. There was a steady gain in weight. Her anxiety and agitation were materially lessened, and her general progress was altogether satisfactory when my departure made further contact with the patient impossible.

CASE 3. FEMALE. THIRD DECADE

Reaction to Inferiority. Persistent, Nonadjustive Affective Reaction to Baffled Major Cravings. Persistent, Nonadjustive Fear Reactions. Indirect Reaction to Sexual Urges.

Symptoms: Depressed. Fearful lest she be exposed as a wanton and cast off by her employer and her people. Feels that only a very empty, forlorn life is ahead of her. A feeling of unreality—"It is as if I were living in a dream."

Physical Factors: None.

Discussion: The patient's father was a drunken, tyrannical man who was violently intolerant of any behavior on the part of his daughters which could be regarded as suggestive of sexual immorality. She was a cowed, repressed, physically unattractive girl who took great satisfaction in the kindly approval of the family in

which she was employed as a maid-of-all-work. They boasted, in her presence, that she was an excellent cook, a faithful servant and a girl of unimpeachable morals. She prized these assets highly, and secretly hoped that they might sufficiently compensate for her lack of good looks to win her a husband in the end. She would walk out in the evening, vaguely hoping to encounter romance, but very proper in her demeanor. One night a man whom she knew very slightly tricked her into taking a walk to a secluded place, and raped her.

She began at once to be depressed, agitated and in constant terror lest the rape had caused her to be pregnant, or to have the appearance of a bad girl even though pregnancy were not present. Her world seemed to tumble down about her ears. Her employers would discharge her and brand her to the world as a harlot, the man who raped her would boast of his conquest, her father would turn her out and might even kill her, no decent person would ever speak to her, etc. The obstetrician whom she first consulted had already demonstrated how wisely such cases can be handled by the trained physician, even though he may lack a technical knowledge of psychopathology. He had convinced her that she was not pregnant, and that she was utterly innocent of wrongdoing. He made her see that the seriousness of her assailant's offence would frighten him into silence, and that only this unworthy fellow, the obstetrician and I ever need know her secret. It was my task to restore to the patient her former sense of pleasant anticipation of what life was apt to hold in store for her. She was reminded that her reputation as a girl of good character and a servant of superior ability actually remained where it was before she met with the upsetting accident; that the world abounds in lonely, home-loving men who are single or have lost their wives, and who know how to appreciate the qualities which she possessed; and that she might hope sooner or later to be sought by a shy but worthy man who might make her happy. This point was stressed with the definite object of giving her a satisfying sense of containing within herself the qualities essential to the attraction of a suitor.

Her tendency to inhibit direct psychical responsiveness to anything which threatened to bring back a clear memory of the rape was explained to her after her own account of the matter had made it evident that this tendency was a factor in continuing the feeling

of unreality. She was taught to strive for an unresisting acceptance of any spontaneous recall of this distressing experience, and not to inhibit any erotic satisfaction which she might normally tend to derive from the fact that a man had copulated with her, or the recall of any pleasurable elements which the total experience might have held for her. It was explained that if she had found the man attractive and his rough love-making not wholly devoid of an appeal to her instincts she must not blame herself, but Nature (or God) for so constructing us all that we respond, in spite of our intentions, to the erotic advances of persons of the opposite sex who are attractive to us.

The patient made a good recovery.

CASE 4. FEMALE. THIRD DECADE

Persistent, Nonadjustive, Affective Reaction. Habit-Inhibition of Responsiveness to Endogenous and Exogenous Sexual Stimuli, and Indirect Responsiveness Thereto. Hyperthyroidism.

Symptoms: Enlarged thyroid. Exophthalmos. Tachycardia. Dyspnea on slight exertion. Subjective palpitation. Fine tremor of fingers. Easily fatigued. Emotional instability—weeps easily. Episodes of diarrhea and of hyperidrosis. Visceral uneasiness. Amenorrhea for seven months. Malnutrition. Fugacious paresthesias. Attacks of sick headache. Insomnia. Morning lassitude. Feels excessively tense, nervous and uneasy.

Physical Factors: Rapidly increasing hyperthyroidism of about one year's duration.

Discussion: About a year before the patient came under observation, and immediately preceding the first noticeable symptoms of her hyperthyroidism, she broke her engagement to marry a young man of whom her family and the community in general approved. They were about to be married when a revolt against what marriage implied in a physical way led her to break the engagement. Her affective reaction to the consequent disapproval of the family and the young man's friends was intense and persistent—she could not bear to face anybody of her acquaintance for a long time afterward.

On examination it was found that, owing to the tuition of her elders, she had always inhibited responsiveness to sexual urges as

shameful, and not to be tolerated before marriage. She had been convinced that mere awareness of sexual desire was only a little less shameful than overt responsiveness to it. With the imminence of marriage and more ardent expressions of affection on the part of her fiancé the hitherto successfully resisted urges broke through her inhibitions, and she felt a sense of shame and horror which induced her to break the engagement at once. There followed the above-mentioned affective reaction to the storm of disapproval, *plus a constant sense of uneasiness* for which she could not account.

When she was enlightened as to the legitimacy of unresisted psychical responsiveness to sexual urges she was convinced, without any suggestion on my part, that her uneasiness and tension were reactions to sexual pressure which had been increased by the more intimate but entirely allowable phases of her engagement. Her hyperthyroidism was so marked that I advised thyroidectomy, but she decided to give her employer a month's notice before giving up the occupation in which she was engaged. This gave me an opportunity to observe the effect of purely psychotherapeutic measures. Her morbid reactions to her friends' disapproval and to her own sexual urges were easily overcome, and there followed a marked reduction of the tachycardia, a few pounds gain in weight and a reduction of the nervous symptoms. Her menstruation for the first time in seven months was now an interesting phase of her improvement, and we hoped that when her month's notice to her employer was at an end prolonged rest in bed and x-ray treatment would render operation unnecessary. She improved to a very considerable degree after these measures were instituted, but there seemed to be an increment of thyrotoxicity which neither rest nor the x-ray could benefit. She had been in bed several weeks when the survey was terminated and I returned to Santa Barbara. It seemed best to advise operation.

This case is of interest largely because it suggests the possibility that persistent, nonadjustive reaction to stimuli and situations which have a primary emergency reactive value may precipitate a stubborn hyperfunction of the thyroid with enlargement of this gland and a typical attendant Graves' syndrome. Means[4] found it necessary to have a city fireman, a hyperthyroidism patient, choose a less exciting occupation, and it seems likely that a good deal of the success

obtained by nonsurgical methods of treatment of Graves' disease which is reported by him and other clinicians is due to *the simplification of demands for adjustment secured by rest in bed.*

CASE 5. FEMALE. SEVENTH DECADE

Persistent, Nonadjustive, Affective Reactions to (1) Inability to Satisfy Major Cravings and (2) Physical Disability and Discomfort. Indirect Reactions to Inhibited Incestuous, Exhibitionistic and Unallowable Heterosexual Cravings.

Symptoms: Bradycardia. Arterial hypotension. Gastric discomfort. Visceral uneasiness. Chronic spastic colitis. Spasm of anal sphincter. Vaginismus. Pain in vagina and at urethral orifice. Slight albuminuria. Fugacious paresthesias. Headache. Extreme morning lassitude. Easily fatigued, and feels tired most of the time. When not "flat" with weakness feels uncomfortably tense and keyed up. Marked emotional instability. Feeling of unreality at times. Hypochondriacal panics. Subjective attention disorder. Insomnia. Complains of a lonely, empty feeling. Great longing for intellectually and socially satisfying life which she once had, but which is no longer obtainable.

Physical Factors: Severe attack of influenza, followed by persistent bradycardia, arterial hypotension, loss of weight and a slight reduction of renal efficiency. This occurred two years before she came under observation. The colitis, vaginismus and morning lassitude were of many years standing.

Discussion: The patient was the only child of her father's second marriage to a frigid, middle-aged spinster. She remembers her parents as cold and undemonstrative toward one another and toward her. Her half-brothers and half-sisters grew up and left home before she was five years old, and the only person who showed her any affection or tenderness was a handsome half-brother who made frequent visits to the father's home. He was about fifteen years her senior. The family lived in the country, hence she had many opportunities to observe the sexual behavior of domestic animals; but the extremely puritanic attitude of her parents toward anything suggestive of sexual matters taught her to regard even her own curiosity as to how babies come into the world as evil and loathsome.

One summer's afternoon, when she was somewhere between the ages of five and seven years, a neighbor boy of perhaps seven or eight suggested that they play in the haymow. It was hot, and he suggested that they remove their clothing. It was good fun and quite thrilling to tumble about in the hay naked with a naked little boy who talked about forbidden things. After the party was over and she had returned to the house for supper, there to face her parents, an intolerable sense of shame overtook her. After supper the little boy was sent to her home on an errand, and he came in announcing to her parents that he and the patient were going to be married. She shrieked and fled to a closet, where she hid herself, weeping in shame and disgust. From that time until her engagement at nineteen she sedulously avoided all thought of the relations of the sexes, and was shy and self-conscious in the presence of the adored half-brother who treated her affectionately.

She assured me that when she was engaged at nineteen she was still ignorant of the fundamental facts of human reproduction. She was not sexually responsive to her fiancé, although she had a romantic affection for him. *It seemed to her that her love for him gave him the reactive value of a brother*—of the beloved half-brother toward whom she felt shy and self-conscious ever after the episode in the haymow with the neighbor boy. This patient knew nothing whatsoever about psychoanalysis, hence it was interesting to note that she recalled her attitude toward her first fiancé's demonstrations of affection as follows:

"The fact that I loved him as I had loved my half-brother made it seem unnatural—'incestuous' is the word, isn't it?—to have physical feelings toward him."

The first fiancé had a married brother who teased her a good deal in a playful way, and whenever they were alone together he would embrace her erotically. This man's advances and her submission to them afforded her an experience which she regarded as somehow quite natural, although improper. She found herself longing for opportunities to be alone with the fiancé's brother so that she might receive his erotic embraces. Finally, during an especially erotic session, he held her against him in such a way as to cause her to have an orgasm. This frightened her badly. She thought it might cause her to have a baby, that she was a fallen

woman, etc. This experience precipitated a return to the former habit of inhibiting rising sexual feelings.

The first fiancé died, and when she was about twenty-two she married a man whom she has always loved rather more tenderly and romantically than women are apt to love their husbands. She submitted to copulation with him without protest, but from the beginning she experienced a shuddering inner revolt—"It has always been like having the marriage relation with your own brother." She longed to have only a "pure" love exist between her husband and herself, but was too sensible to oppose his indulgence in less "pure" relations with her. The vaginismus was in evidence the first night of the marriage, and continued throughout their married life.

As she grew older and had contacts with people who taught her to accept sexual desire as a quite allowable thing in itself she was subject to attacks of intolerably fierce sexual hunger, but it was always directed toward men other than her husband. She continued to love her husband in an exclusive sort of way, but to respond shudderingly to his sexual advances as to incestuous behavior. Her ideals and general decency of make-up kept her virtuous, but she was a good deal tormented by desires to encourage men who were known to delight in intrigues with married women.

Along with her other bad reactive habits, and dating from the nakedness party in the haymow, was a tendency to react in discomfort and sometimes in lively fear to personal exposure on her part or that of other women. The introduction of exhibitionistic styles for young women made her vaguely uncomfortable and unhappy, and when the fad for rolling down stocking-tops came to her town this discomfort became very acute. This did not seem at all logical to her—this emotional revolt against styles and fads which she sanctioned on esthetic and intellectual grounds. She wished to applaud "flapper" immodesty as a sensible advance in dress and custom, but, in spite of herself, it gave her a kind of moral nausea.

That she had inhibited and was reacting indirectly to an abnormally developed exhibitionistic tendency was suggested by the frequency with which her hypochondriacal panics and medically inexplicable attacks of pain in the vagina and at the urethral orifice required her to summon a physician and obtain his assurance that *actual inspection* revealed no disease of the parts involved. This

modest and delicate-minded gentlewoman took an obviously sensual delight in exposing her body to her physicians, in spite of her protests to the contrary.

Hypochondriacal panics were especially apt to be precipitated by meaningless little displays of affection on the part of her husband. These panics began only after change of residence and illness had cut her off from the sources of intellectual and social satisfaction to which she habitually looked for her major interests.

This patient's intelligence, her entire ignorance of current psychoanalytic theories and interpretations, and her willingness to tell her story without directive questioning on my part induced me to select her case as an especially suitable one with which to illustrate in considerable detail the objective method of approach to psychopathologic problems as I have defined it in Part II of this book.

I do not believe that any psychoanalyst who is free of the faults of the advocate and the cultist would curse me—as I have not infrequently been cursed by psychoanalytic colleagues—for my academic, reactionary habit of mind because I prefer the following estimate of *Case 5's* case to a more psychomorphic one. And I am quite sure that none of my contemporaries in behavioristic research would fail to demand that each of the following propositions be subjected to much more careful and extensive investigation in the laboratory than has yet been possible before it can be accepted as a scientifically established finding.

1. *Little girls tend to expose their bodies to favored males in the same sense that they tend to play mother to dolls or other play-symbols of babies.*

Our patient's exhibitionistic party in childhood was in response to a normal component of her reactive equipment, but the modifying effects of her previous experiences (largely tuitional impositions) gave to this behavior a reactive value which resulted in an immediately present tendency to inhibit awareness of it as painful and otherwise disadvantageous (shameful, likely to provoke parental disapproval and chastisement, etc.). This led to the development of a habit of inhibiting all direct psychical and behavioristic responsiveness to exhibitionistic urges.

2. *The development of a habit of inhibiting direct responsiveness to any urge, possession of which is a species characteristic, is apt to be followed by habits of indirect responsiveness thereto. Develop-*

ment of habits of indirect responsiveness to a particular kind of urge increases the tendency to respond indirectly to any urge, direct responsiveness to which is painful or fraught with other kinds of disadvantage.

Case 5's affective revolt against the exhibitionistic dress of the younger generation can be adequately described, in my opinion, as an expression of a *habit-inhibition.* Her medically unexplained pains in the vagina and at the urethral orifice which required, for their relief, inspection by a physician, may be regarded as *indirect reactions* to inhibited exhibitionistic cravings. The lonely, empty feeling of which she complained so bitterly, and which she sought to relieve by frequently summoning physicians on trivial pretexts did not seem to her to have other than surface significance. But it seemed to me that her ingenuity in securing these frequent, prolonged and, naturally, intimate visits reflected a general habit of reacting indirectly to any kind of sexual urge. She protested, with evident sincerity, a preference for the male point of view, the male robustness of intellect, etc.

3. *Children who are taught to inhibit the prepubertal forerunners of adult heterosexual urges as intrinsically shameful are apt to have more persistent and intense sexual reactions to members of their own family than is normal. In consequence, when the sexual instinct reaches a point in its development at which a tendency to react inhibitively to incestuous urges normally appears, such children are apt to become conditioned to react to the amorous advances of a well-beloved person of the opposite sex (suitor or husband—sweetheart or wife) as to incestuous advances. The only amorous relations which will not thereafter have an incestuous reactive value will be such as are had with persons who are not well-beloved.*

Our patient was taught, from the beginning, to react inhibitively to the maleness of extra-familial males. The episode in the haymow with the neighbor-boy brought precociously to an issue the need of cutting herself off from potential sexual responsiveness to extra-familial males, and her frigid, elderly father failed to play the normal rôle of male parent. This threw her back upon the handsome, grown-up half-brother who was, biologically, at once a brother and not quite a brother. He became for her the play-symbol, both when they were in contact and in her phantasies, of the later to be acquired mate in quite the same sense that her doll was the play-

symbol of the baby that she might some day be qualified to bear and cherish.

I do not mean that an hypothetic psychical "unconscious" cherished anticipations of a mate, copulation and a baby. She may or may not have held in actual awareness such anticipations, but if she never had such awarenesses or, having had them, forgot them beyond recall, why assume unconscious psychical motives rather than purely physiologic sets in order to explain her subsequent acts and awarenesses? The male puppy who rides another male puppy is thereby improving his chances of some day copulating with a female and thus doing his bit toward continuing the canine species; but it is contrary to the soundest precedents of the natural sciences to posit an unconscious psychical determination of such behavior.

Our patient clearly remembers that: (a) she adored her brother and was so thrilled by his presence that it made her shy of him; (b) when she fell in love with and engaged herself to the first fiancé he had the sexual reactive value of a brother; (c) for a while she had normal sexual reactions to her fiancé's married brother, whom she did not love; (d) she always regarded sexual relations with her husband as somehow incestuous because he was as intimately and dearly beloved as a brother. It seems to me that she was thus disclosing conditioned psychical and behavior reactions of essentially the same physiologic determination as the conditioned reflexes isolated by Pawlow[5] and Bechterew[6] in their laboratories of physiologic research.

In common with all other clinical psychopathologists, I have had many opportunities to study the type of woman who declares that she is never able to submit to copulation with her husband without feeling that it is horrid and unnatural. Such women not infrequently present a troublesome vaginismus, and some of them, at least, will acknowledge that they have sexual desires directed toward men other than their husbands without experiencing disgust.

4. *Persons who habitually inhibit responsiveness to urges which are characteristically experienced by all members of the species tend to find compensatory measures of satisfaction along other lines of desire. They may thus escape pathologic habits of indirect responsiveness to the inhibited urges; but they seldom, if ever, wholly escape the development of such habits. Whenever conditions arise which persistently baffle their efforts to gratify their uninhibited major*

cravings they are apt to develop, in addition to the ordinary neurasthenic syndrome, seriously morbid modes of indirect reaction to the inhibited urges.

Case 5 was merely neurasthenic and not seriously psychoneurotic for many years because, it seems, she found a compensatory measure of satisfaction in gratifying intellectual, esthetic, gregarious and other cravings. Before her more serious nervousness developed she was known to her friends as a rather intense, restless person who rode her hobbies hard, but who was well enough to get a great deal out of life. The vaginismus, the inability to "let herself go" in response to her husband's sexual advances, tormenting desires for extraconjugal sexual relations and her vague discomfort in the presence of exhibitionistic dress and behavior on the part of other females were present for many years; but all this did not seriously interfere with her general comfort and efficiency. The condition that was present during my study of the case was attributable to removal to a town in which she could not find adequate sources of intellectual and social satisfaction, and to a debilitating attack of influenza. She was too ill to reconstruct her life in terms of newly acquired uninhibited cravings, and fell back upon indirect responsiveness to the old inhibited urges.

It is to be regretted that the survey terminated shortly after the patient had completed her remarkably honest and consistent account of herself. She had dabbled a little with "New Thought" and other bastard psychologies, and it was difficult to hold her to a direct consideration of the significance of her story. Nevertheless, some progress had been made in a therapeutic way, and a satisfactory degree of recovery seemed to be possible, when I returned to Santa Barbara and thus lost contact with her situation.

CASE 6. FEMALE. THIRD DECADE

Indirect Reaction to Inhibited Sexual Urges. Depressive Reaction to Blocking of Outlets to Major Cravings.

Symptoms: Marked, constant depression. Subjective attention disorder. Feels mentally and physically inadequate at all times, but especially so in the morning. Affective insufficiency. Feeling of detachment from reality. Self-accusatory—accuses herself of be-

ing a wanton, although she is obviously of the prudishly virtuous type.

Physical Factors: None.

Discussion: The father committed suicide and the mother died in depression. The patient's depression grew out of the following circumstances.

She had engaged herself to a worthy young man to whom her sisters were opposed because they did not regard him as her social equal. The patient resolutely defended him, and clung to the engagement until the imminence of marriage brought a sudden revulsion of feeling on her part. She broke the engagement, and thus caused, according to her story, the keen remorse and general feeling of guiltiness and unworthiness, *and the feeling of emptiness that constituted her depression.*

After a foundation had been laid for a more intimate account of her difficulties the following facts were disclosed:

She had always assumed that normal sexual urges were shameful, and had resolutely inhibited psychical reaction to them until late in her engagement. As the date for their marriage drew near and the betrothed couple were more ardent in their demonstrations of affection for one another, she began to experience strong sexual feelings and to have erotic anticipatory imaginations of what marriage would involve. One night the inhibitive habits of years abruptly asserted themselves, and she experienced a revolt of shame and self-disgust. She rationalized her withdrawal from the engagement and her psychical reactions to the whole situation by saying to herself that she had made a mistake—that she and the young man were not suited to one another—that his personality had become distasteful to her.

It was not difficult to convince this intelligent young woman that her sexual urges had always been entitled to a respectful hearing in her own consciousness, and that the shameful thing is to stress too greatly the value of erotic satisfactions or to permit sexual urges to lead to antisocial behavior. It was a revelation to her to learn that a modest, fastidious young woman ought, normally, to have flashes of passionate desire to give her body to a beloved male, and that it is morbid to react to such urges by feeling shame and an obligation to inhibit direct, frank awareness of them. They

must be directed and controlled, of course, with reference to considerations of duty, expediency, etc.

It seemed a merciful thing, in the circumstances, to spare the patient the discomfort involved in giving me an account of her earlier reactions to the father situation, but it seemed so likely that the force of habit-inhibitions was traceable to morbid responsiveness to the maleness of the father that I gave her an impersonal account of what my studies of other girls had taught me. *She was told, in effect, that practically all girls have flashes of incestuous responsiveness to the father, and that sometimes these are secondarily reacted to by an instinctive identification of all sexual responsiveness with incestuous responsiveness. The girl may thus become conditioned to react to any beloved male—usually to the fiancé of later years—as to the father, i.e., with shame and horror.*

She recovered within a few weeks, and when she paid her final visit to my office, some time after a slight postdepressive rise of exhilaration had faded, she said that the last talk (the one about morbid responsiveness to the incest situation) had effected her recovery.

An important factor in determining the symptomatology of her depression was the sense of emptiness—that the salt had lost its savour—that all desire for life had gone because there was nothing in life to desire. This was directly traceable to her renunciation of sexual satisfactions as shameful and unallowable at the one period of all her life when such satisfactions seemed of major importance. Enlightened as to the rightfulness of seeking to obtain sexual satisfaction in marriage seemed to renew her normal sense of the general livability of life.

It is my conviction that depressions of the manic-depressive type need not, in the majority of cases, pursue a protracted course if they are intelligently dealt with in their inception. Anything that blocks or seems to block all outlets to the presently most important urge or satisfaction-hunger of a predisposed person is very apt to precipitate a depression. When habit-inhibitions, *however derived,* lead to the breaking of an engagement as marriage is imminent a serious illness is apt to ensue. The nature of the illness is, in my opinion, importantly determined, by constitutional predisposition. Thus *Case 4* developed a Graves syndrome under conditions which precipitated a manic-depressive psychosis in *Case 6.* Other patients

of my experience, both before and after the survey, have developed schizophrenic psychoses under similar conditions. A man who has long been dependent for happiness on the assumption that his own capacities insure him adequate current measures of the major satisfaction of his life, and who has critical experiences of any sort which tend to convince him that he does not possess such capacities, need only have the necessary predisposition in order to fall into a depression. Thus a professional man who habitually finds his greatest satisfactions in the assumption that he is adequate to the tasks which fall to his lot may encounter such a prolonged series of critical failures that his adequacy is impeached thereby to his own mind. He reacts to the total situation as to a final and complete blocking of all effort to obtain the particular satisfactions without which life ceases to be a desirable thing. His symptomatic self-accusations, which are a natural part of the depression, often disclose long-standing difficulties of adjustment to his sexual urges, and these, however unimportant, are apt to be seized upon by the psychoanalyst as the major determinants of his psychosis.

CASE 7. MALE. FOURTH DECADE

Indirect Reaction to Inhibited Sexual Urges.

Symptoms: Is a telegrapher. Five years ago began to feel afraid whenever alone in the operator's tower. Then he was afraid in any lonely place where he might meet tramps. His fear of definite situations gradually extended to merely appearing on the street without some member of his family. Finally he was free from a tormenting fear only when safely indoors. Six months ago he gave up all occupation, and began to develop various physical symptoms. He has a good deal of discomfort in his stomach and intestines, has lost 30 pounds in weight during the last six months, has a good deal of mucus in his stools and is stubbornly constipated. There is morning lassitude, nervous tension, sense of pressure in the head and, of course, profound discouragement over his outlook.

Physical Factors: Only those secondary to persistent fear reactions.

Discussion: The patient's initial account of himself disclosed nothing of direct significance excepting his symptoms, as listed above. He was happily enough married, had satisfactory children

and sustained a normal sexual relationship to his wife excepting his dependence on *coitus interruptus* for the prevention of pregnancy.

His "surface" history of his childhood and adolescence was not illuminating, and did not furnish clues of any importance. He rationalized his fears as due to his fear of tramps, who occasionally attack telegraphers in their towers or on their way to and from these often out-of-the-way places.

Intimate knowledge of the patient's personal background and the conditions under which he was brought up was of great service to me. He was asked to give me a fearless account of his childhood and adolescent experiences at the swimming hole frequented by the youngsters with whom he grew up: a generation ago the country swimming hole of which the poet writes so longingly was a breeding place for all the nastiness of which original human nature is capable. The patient's initial account of his experiences disclosed the usual inability to recall, without important omissions, the more shameful events of his boyhood swimming days. He was instructed to write down his dreams during this period, and to bring his notes to me. With apparently critical phases or figures of these dreams as starting points, he was induced to give me his free associations. This finally brought him to a point at which he was able voluntarily to overcome all inhibition of recall of an impressive list of masochistic, sadistic and homosexual episodes which occurred at the swimming hole. The patient had been a naturally shy, sensitive boy with a mental endowment which was much superior to that of his companions. He was overpowered by older boys and raped (per rectum), coaxed into submission to their use of him as a female, and finally conditioned to react masochistically to the stimuli derived from the always intensely erotic atmosphere which prevailed at the swimming hole. As he grew toward manhood he inhibited all direct reactions to masochistic and homosexual urges, and seemed to become exclusively heterosexual in a normal way.

One night, after he came under observation, and after he had learned to recall the swimming-hole experiences without inhibition, it flashed into his mind that his fear of meeting men alone in secluded places was really a fear of having developed, within himself, a desire to be raped by a man. When he came to my office to report his discovery I explained to him the mechanism involved in

indirect reaction to unallowable urges in terms of his own experience, symptoms, etc.

After he had attained a fair degree of insight into the nature of his psychoneurosis he began to improve very rapidly, but there had developed an undesirable degree of dependence (the "fixation" of psychoanalysis) upon me for directive advice, understanding, sympathy, etc., which had to be explained to him. He was an unusually intelligent man, and was always ready to cooperate with me, no matter how disagreeable cooperation might be. I directed him to return to work, and to report to me, first weekly, then fortnightly, then monthly. His last report before my departure was a mere friendly call. He had gained 60 pounds, and his recovery was in every way complete.

CASE 8. FEMALE. THIRD DECADE

Indirect Reaction to Masturbation.

Symptoms: The patient has been languid and seclusive for two months. She has eaten nothing for three weeks, explaining her fast by saying that food is repugnant to her and that she is constantly nauseated.

Physical Factors: None found to account for the nausea and anorexia.

Discussion: One always suspects pregnancy or masturbation in young unmarried women with the above-described symptoms. In this case there was an intact hymen, and she was quickly induced to admit masturbation, direct psychical reaction to which had first been in the form of intolerable self-disgust. This direct psychical reaction had been inhibited, after which the seriously prolonged fast began. She quickly grasped the principles involved in the explanation given her, broke her fast as rapidly as we permitted, and made a prompt recovery.

CASE 9. MALE. THIRD DECADE

Masturbation. Indirect Reaction to Masturbation.

Symptoms: Many subjective sensations referable to the heart: He feels his heart thump, quiver, palpitate, stand still, etc. Often feels "big all over the bowels," often "weak and all in." Anxiety

attacks, during which he fears that his heart will stop and that he will die. Headache. Constipation.

Physical Factors: None identified.

Discussion: Several years before this young man came under observation he gave up an interesting and remunerative position in the city in which he was born and had hitherto always lived to accept the hard-working, poorly paid position of a farmhand. He had no ambition to become a landowner, and no special fondness for the country. It was not difficult to obtain an intimate history of his inner life.

During his late 'teens and early twenties he indulged in both masturbation and normal heterosexual acts, but as he advanced in his twenties he felt a growing indifference to heterosexual satisfactions and a corresponding increase of desire to masturbate—this, in spite of the fact that he had unusual opportunities for copulation with the unvirtuous girls whom he had encountered in his walk of life. He could not explain his retreat to the farm except to say that his health was not good and that he was tired of being where there were people. After many examinations it became clear that his anxiety attacks and many hypochondriacal symptoms were indirect reactions to inhibited determinants of fear that his masturbation might wreck his life, and that it might be discovered and cause him to be held in contempt by his fellows. He did not wish to give up his bad sexual habits, hence he inhibited direct psychical reaction to them as disadvantageous. It was more satisfactory to cling to the habits of hypochondriacal indirect reaction to his masturbation.

Like most masturbators of his type, he indulged in the act itself as a climax to erotic sexual imaginations in which he possessed, in phantasy, any woman whom his fancy might create as a pleasing sexual object. He admitted that one great charm of farm work was to be found in the circumstances that while he was working alone in the fields he was free to indulge in these alluring phantasies, which gave him unlimited desire, unlimited capacity and unlimited opportunity. He avoided all situations which called for social adjustments excepting those on which he was dependent for his simple mode of life. His employer fairly dragged him to town and to my office for each visit.

It is possible that a cure might have been effected had I been able to find occupation for him in town, and thus obtain an opportunity to train him in the direction of looking to town adjustments for his current satisfactions. He had flashes of insight into his condition, and would return to the farm considerably improved. After one especially profitable session he returned to my office at the end of a fortnight in a quite confident frame of mind. An unvirtuous country girl with whom he was frequently thrown in contact, and whom he found attractive, had submitted to him, and he had found considerable pleasure in an intrigue with her. But in the end no real girl could compete with his dream-girls: "real girls were apt to fall in love with a fellow, or to become pregnant or to infect him with a disease." The patient never held any of the sporadic improvements long enough to make any real headway.

CASE 10. MALE. SECOND DECADE

Indirect Reaction to Masturbation.

Symptoms: When called on to recite at school he feels his heart racing, pants, and can't respond. He can ingest solid food, but when he tries to drink cold water he chokes and has much difficulty in swallowing. His stomach "feels raw." Constipated. Nervous, easily upset and irritable.

Physical Factors: None.

Discussion: The patient's parents assured me, privately, that they had thoroughly explored the possibility of masturbation in his case, and had found that this habit did not exist; he was even ignorant of sexual matters. The boy was seen alone—a procedure which ought always to be followed in such cases. A sympathetic talk about the difficulties experienced by boys in avoiding this almost universal habit quickly led to a shamefaced admission on his part that he masturbated almost daily. He was quite sophisticated as to sexual matters, and masturbated to the accompaniment of heterosexual phantasies.

These cases are easily managed if the parents take an unrebuking attitude, and permit the psychopathologist to give the boy a sense of partnership with his medical adviser in solving the problem.

CASE 11. FEMALE. FOURTH DECADE

Persistent, Nonadjustive, Affective Reaction to Physical Disabilities and Discomforts.

Symptoms: Never well since she had measles at nineteen. Chronic malnutrition. Easily fatigued and always more or less tired. Constant ache in the lumbar region. Sinking spells, during which she collapses to the floor without loss of consciousness. Constipated. "Sour stomach." Attacks of vertigo—during one such attack had profuse perspiration and diarrhea. Dysmenorrhea. Menorrhagia. Hemorrhage from throat sometimes precedes menstruation. Pruritus vulvae. Systolic pressure 90. No enlargement of thyroid and no symptoms of hyperthyroidism. Chronically baffled, discouraged attitude toward her physical condition, and the usual syndrome of secondary nervous symptoms, viz., morning lassitude, nervous tension, uneasiness and an unrested feeling which is augmented rather than reduced by physical rest.

Physical Factors: Only the menstrual disorders were positively identified as possible factors, and these could not be traced to any anatomic or infectious causes.

Discussion: It is this type of patient who compensates the psychopathologist for his many failures. When she first came to my office, a frail, emaciated woman of thirty-nine, she assured me that she had known only ill health since the attack of measles at nineteen. She was married, had one living child and gave a history of no other pregnancies. Prolonged and careful examination revealed no significant personal problems other than those contained in her ill health. Access to various reliable sources of information concerning her domestic and social life enabled me to confirm her statement that she and her husband lived an affectionate, sensibly ordered life together, and that her social life was satisfying in a simple, old-fashioned way. After several examinations she was told that tuberculosis, "inward goiter," nephritis and tangible anatomic pelvic disorders (all of which possible causes had been suggested as explanations of her condition by various friends and physicians) could be excluded. She was required to lower the level of her activities, to take mid-forenoon and mid-afternoon rests and to go on a more generous, better balanced diet. The first twenty-four hours

of her menstrual periods had always prostrated her with pain, hence I gave her four quarter-grain tablets of codeine sulphate from a stock which I kept in my office, and instructed her to use these for mitigation of her pain at the next period.

After the somatic situation had thus been provisionally planned for she was given a talk on the comparative merits of *adjustive rational and nonadjustive instinctive, infrarational* habits of responsiveness to baffling discomforts and disabilities. Her understanding of the principles involved was exceptionally clear and effective.

Her improvement was rapid and continuous, and within less than four months she reported recovery from all symptoms excepting the dysmenorrhea, the pain of which was satisfactorily mitigated by the codeine. Her blood pressure was now normal, her weight normal to her age and height, and her general appearance that of a healthy person. Each month after her recovery she reported for her dole of codeine tablets with which to tide over the menstrual period, and she invariably reported that her recovery still held.

This proved to be a case in which the physical consequences of persistent, nonadjustive affective reaction to baffling somatic disorders seem to have accounted for a continuation of such disorders over many years.

CASE 12. MALE. SIXTH DECADE

Persistent, Nonadjustive, Affective Reaction to Physical Discomforts and Disabilities.

Symptoms: This patient was referred to me because he was nervous, irritable and "inclined to pay too much attention to his diet, and to think of nothing else but his stomach."

Physical Factors: Gastric ulcer.

Discussion: The patient's secondary nervous reactions to a baffling discomfort had led to a mistaken diagnosis of "nervous indigestion." I was unwilling to assume management of his case until a competent internist had excluded the possibility of gastric ulcer or carcinoma. The x-ray and an analysis of the gastric contents disclosed gastric ulcer.

CASE 13. FEMALE. FIFTH DECADE

Persistent, Nonadjustive, Affective Reaction to Baffling Physical Discomforts and Disabilities.

Symptoms: Scanty menstruation. Hot flashes. Feels baffled and discouraged by her inability to secure relief from constant headache. Is below weight, is easily fatigued and has sensations which she describes as "feeling as if a string were tied around her waist." Tendon reflexes diminished, pupils react sluggishly to light and laboratory reports positive Wassermann.

Physical Factors: Syphilis. Possibly early tabes.

Discussion: The patient's obvious functional nervousness and irregular menstruation with hot flashes had led her previous medical advisers to diagnose her case as the nervousness of the menopause. Her history pointed to an hitherto unsuspected infection with syphilis by her husband about fifteen years before she came under observation.

She was referred to an internist for appropriate treatment of the syphilis.

CASE 14. MALE. FIFTH DECADE

Persistent, Nonadjustive, Affective Reaction to Baffling Physical Discomforts and Disabilities.

Symptoms: Arthritis. Worried, tense, nervous, restless and intolerant of the baffling pain and disability.

Physical Factors: Old gonorrheal infection with secondary arthritis.

Discussion: Seven years before the patient came under observation he had an attack of gonorrhea which was treated, and pronounced cured after a few weeks. Ever afterward unusual exposure would precipitate symptoms of rheumatic arthritis, and it was assumed that he was somehow constitutionally rheumatic. The joint symptoms were less fugacious than one usually finds them in young adults, but they did not have the fixed and serious character of gonorrheal arthritis. He was surprised when it was suggested that there might be a residual prostatic and posterior urethral gonorrheal infection, and was so gratified by finding a tangible cause for his

arthritis when such infection was disclosed that he recovered from his nervousness before his arthritis was relieved. The psychotherapeutic value of a systematic exploration for physical factors which may be concerned in producing the discomforts and disabilities of nervous patients often has, as a by-product, a diagnostic value. During the survey an old, hitherto unsuspected residuum of gonorrheal infection proved to be the essential determinant of the patient's disabilities in six cases.

CASE 15. MALE. THIRD DECADE

Persistent, Nonadjustive, Affective Reaction to Baffling Physical Discomforts and Disabilities.

Symptoms: Persistent pain in the lumbar and lower dorsal regions of the back. Stiff, unable to move freely, and is in a very nervous, baffled state of mind. Very self-centered.

Physical Factors: Residual gonorrheal infection of prostate. Osteoarthritis.

Discussion: The patient had been incapacitated for a year, and had become a pest to the doctors in the village where he lived. A diagnostic laboratory to which he was referred for examination reported negative findings and returned a diagnosis of neurasthenia with the recommendation that he be given bromides and set to work.

He asked me to treat his nerves, and I suggested that we make a systematic effort to account for his lame back on a somatic basis. It developed that he had had gonorrhea eight years before he came under observation, but that he had been pronounced cured within a few months after the initial symptoms appeared. He was positive that there was no residual infection, but milking of his prostate and the use of the urethroscope disclosed a very considerable degree of chronic gonorrhea. His wife was examined, and found to have a chronic gonorrheal discharge. The osteoarthritis improved as the gonorrheal infection yielded to treatment, and he was able to return to work about two months after he first came under observation. The nervous symptoms promptly disappeared.

The patient came to my office on the eve of my departure and complained that his nervous symptoms had returned. The internist

to whom he was referred for diagnosis and treatment reported symptoms of chronic cholecystitis, and the patient passed out of my records at this unsatisfactory stage of affairs.

CASE 16. FEMALE. SIXTH DECADE

Persistent, Nonadjustive, Affective Reaction to Physical Discomforts and Disabilities. Reaction to Need of Acquiring Status of Physically Impaired Person.

Symptoms: Complains of almost constant pain in epigastrium which "cuts through" to corresponding level in the back. Claims to have retained no food for several weeks, although she has not lost weight. Makes obviously untrue statements, such as her frequent reports that she has vomited large quantities of blood, that she has fainted with pain, etc. Morning lassitude. Currently tired, tense and nervous. Extremely self-centered. Makes frantic efforts to convince her physicians that she has serious disease.

Physical Factors: Gastric ulcer.

Discussion: About one year before this patient came under observation she began to complain of gastric pain, nausea and indigestion. Her family physician treated her, unsuccessfully, for several months and finally sent her to a diagnostic laboratory for diagnosis. Her volubility and obvious exaggerations convinced the physicians there that she was simply a neurotic woman, and they reported negative physical findings. When she came under my observation this report from the laboratory and her nervous symptoms naturally led me to explore more persistently than usual for explanatory adjustive dysfunctions. None of significance was disclosed after several weeks of intensive study of the case, and I became convinced that her nervous symptoms were secondary to real pain and to her inability to have it accepted as such by the physicians. I referred her to the two local internists who were equipped to do the work of a diagnostic laboratory in gastroenterology, with the suggestion that they guard against permitting their own judgments to be affected by the fact that the patient was untruthful and very self-centered. A conclusive diagnosis of gastric ulcer was made by these two men, who treated her case exclusively on its merits as one of gastric ulcer. She made an excellent recovery, and gave no further evidences of nervousness.

CASE 17. MALE. SEVENTH DECADE

Persistent, Nonadjustive Affective Reaction to Baffling Physical Disability.

Symptoms: Has had considerable pain and impairment of function in left hip joint for five years. Is nervous, irritable and tense. Morning lassitude.

Physical Factors: Residual prostatic and posterior urethral gonorrheal infection of twenty years' duration.

Discussion: The patient came to me for relief from nervousness, which he attributed to the joint affection. He was found to be manifesting persistent, nonadjustive affective reactions to the pain and disability of his arthritis and to the failure of physicians, osteopaths and chiropractors to afford relief in return for the money expended on treatment.

Christian Science has done what medical men have failed to do, viz., it has demonstrated the possibility of removing the increment of nervous symptoms secondary to chronic physical disorders and of thereby greatly reducing the discomforts and even disabilities of such cases. A man who is physically impaired and who fails to obtain the relief that he is ever seeking and never getting is a baffled man, and is apt to react to the total situation as to a disadvantage which calls for emergency responses; and if the disadvantage is not of a kind to permit terminative adjustments, the primary physical disorder soon has added to it a serious degree of nervousness. The more intelligent persons of this type can easily be taught to substitute rational for less adaptive habits of reaction to the disadvantages of the physical situation. The unintelligent ones—to which class *Case 17* belongs—are often inaccessible to this kind of psychotherapy.

The patient under discussion improved during the period which was devoted to a systematic exploration for the cause of his arthritis, and for a few weeks after the existence of a residual gonorrheal infection had been disclosed he was not nervous; but when I finally convinced him that I was neither willing nor competent to undertake the removal of this condition he discontinued his visits and slumped into his former secondary nervousness.

CASE 18. FEMALE. FIFTH DECADE

Persistent, Nonadjustive Affective Reaction to Baffling Physical Disability.

Symptoms: Attacks of severe pain which are referred to the stomach. Worried, discouraged, baffled and frantically in quest of diagnosis and relief. Morning lassitude. Tense, nervous and uneasy. Marked malnutrition. Typical neurologic signs of tabes. Report from Wassermann laboratory: strongly positive.

Physical Factors: Syphilis. Tabes.

Discussion: The patient exclaimed as she was ushered into my consulting room: "I have been to nine different doctors, osteopaths and chiropractors. They all tell me that I have nervous dyspepsia, but nobody has helped me. It has got on my nerves something fierce!"

She had been told that an intangible disorder of the stomach (gastric neurosis) was somehow due to her imagination, and that I might be able to cure her by psychotherapy. The Argyll-Robertson pupils, lost tendon reflexes, ataxic gait and emaciation at once established a diagnosis of tabes. She informed me that her divorced husband had had syphilis during their early married life. Her description of the attacks of pain clearly disclosed the fact that they were classically the gastric crises of locomotor ataxia. The mere establishment of a diagnosis, along with a frank statement of what could be done about it, brought a marked and immediate amelioration of the secondary nervous symptoms. She was turned over to a competent local internist for therapeutic management, and instructed to report to me from time to time. The tabes responded very well to his treatment, and when I last saw her all symptoms of secondary nervousness had disappeared.

CASE 19. FEMALE. EIGHTH DECADE

Persistent, Nonadjustive Affective Reaction to Baffling Physical Disability.

Symptoms: Vague pains in chest. Nervous, tense and irritable. Unable to sleep, even when not kept awake by pain. Dyspnea. Marked sense of physical weakness. Refuses to accept family physi-

cian's assurance that there is nothing seriously wrong with her—that her trouble is largely a matter of "nerves," etc. Physical signs of mitral insufficiency with moderate degree of decompensation.

Discussion: This old lady's physician was misled by the fact that she was very nervous, and inclined to revolt against his failure to relieve chest pains which he did not believe to be as severe and persistent as she claimed. There was no suggestion of an oncoming senile dementia to account for her nervous symptoms, and she did not seem to be revolting against the discomforts referable to the cardiac condition. She was removed from the country to town at my suggestion, and assured that systematic exploration would be made for the cause of her chest pains. I informed her quite frankly that she had a mitral leak, and expressed a hope that if she would settle down to a comfortable conviction that nothing would be ascribed to her imagination she would be more comfortable. Codeine for the pain, digitalis and better nursing for the heart condition *and recognition of the fact that she must have the status of a person who needed diagnosis of as yet unexplained pains in the chest* were followed by disappearance of the nervous symptoms: she became a cheerful old lady, and bore her pain with fortitude. The pain persisted, and an internist whom I summoned was finally able to make a positive diagnosis of mediastinal carcinoma. The physical condition was, of course, hopeless.

CASE 20. MALE. SIXTH DECADE

Persistent, Nonadjustive Affective Reaction to Baffling Physical Disability.

Symptoms: Attacks of gallstone colic with subsequent clay-colored stools and jaundice. He is tense, nervous, irritable and uneasy. Morning lassitude. He has an aggrieved, rebellious attitude toward the many physicians whom he has consulted.

Physical Factors: Gallstones.

Discussion: Case 20 was a stubborn farmer, the husband of *Case 23*. He insisted that if the doctors would only ease his nervousness he would be all right and demanded of me a stronger nerve tonic than that which he was taking: Miles' Nervine. Doctor Miles had assured him in a very scientific letter, that his case was one of nervousness, and he regarded this opinion as considerably more

authoritative than that of mere local physicians. I had no greater success than my colleagues experienced in seeking to convince this patient that only an operation would relieve the attacks of gallstone colic. My success with his wife induced him to continue his visits to my office until I finally refused to see him professionally. The public, it seems, would like to make fakirs of us all.

CASE 21. FEMALE. SIXTH DECADE

Persistent, Nonadjustive Affective Reaction to Baffling Physical Disability.

Symptoms: Arthritis. Neuritis. Recent cessation of menses. Hot flashes. Dyspnea on Exertion. Easily fatigued. Easily upset. Morning lassitude. Nervous, tense, irritable, uneasy and discouraged.

Physical Factors: Cryptic infections (tonsils). Overwork. Menopause.

Discussion: Removal of very bad tonsils and a general lowering of the level of her activities quickly enabled this sensible, hard-working farmer's wife to regain her balance. She stated her case adequately enough on her first visit: "So much pain and so much time and money spent on my osteopath without relief has gotten on my nerves, and I am not fit to live with."

CASE 23. FEMALE. SIXTH DECADE

Persistent, Nonadjustive, Affective Reaction to Baffling Physical Disability and Discomfort.

Symptoms: Dyspnea on exertion. Tachycardia. Mitral systolic murmur transmitted to left axilla. Recent cessation of menses. Hot flashes. Pain in top of head and back of neck. Easily fatigued. Occasional nausea. Morning lassitude. Tense, nervous, restless and uneasy.

Physical Factors: Mitral insufficiency with beginning decompensation. Menopause.

Discussion: This hard-working farmer's wife had spent a considerable sum of money with an advertising "doctor" who made an *in absentia* diagnosis of nervousness due to change of life. He gave

her his patent remedy, which was a strong solution of bromides. Her increasing inability to walk up slight grades and to do the work which fell to her lot without dyspnea and marked fatigue, was philosophically ascribed to the menopause, but her failure to obtain any mitigation of these symptoms finally induced a marked secondary nervousness. She felt baffled and discouraged, but was ashamed of giving way to her disabilities and discomforts.

Examination revealed the mitral insufficiency and decompensation. The nature of her heart condition was explained to her, and she was instructed, *in her husband's presence,* to reduce the level of her activities to a prescribed degree, to take digitalis, to give up the patent bromide solution, etc. When she was assured that there was a tangible foundation for her symptoms her face beamed with satisfaction, and she expressed herself as gratified to know that her ailments were not merely imaginary. It was clear that she was not a primarily nervous person, and that her dread of giving way to nerves had prompted her to overtax herself. An important factor in bringing this patient relief from her secondary nervousness was her husband's prompt acceptance of her status as a physically impaired person. She responded satisfactorily to rest and digitalis.

CASE 24. FEMALE. FOURTH DECADE

Persistent, Nonadjustive, Affective Reaction to Baffling Physical Disabilities and Discomforts.

Symptoms: Tachycardia. Blood pressure: systolic—90, diastolic —50. Often feels "weak in the stomach and dizzy." "Stomach gnaws all the time." At times feels feverish. Nails and lips cyanotic in the morning. Goes to pieces easily. Twenty-five pounds under former average weight. Pupils unequal but react to light and accommodation. Tendon reflexes diminished, but not absent. No other neurologic findings. Reports from diagnostic laboratory negative as to syphilis and hyperthyroidism. Definite secondary nervous reaction to failure to obtain diagnosis and relief, viz., morning lassitude, nervousness, sense of inner tension and ever-present sense of baffled effort to rid herself of a disadvantage which had so largely occupied her attention.

Physical Factors: The diagnostic laboratory and a very competent local diagnostician could find nothing to account for the above symptoms.

Discussion: The patient's behavioristic functions were carefully studied in light of her personal history, social and domestic settings, present attitudes, etc., with essentially negative results. She came to me for diagnosis, and since I could make none she was not interested in what I had to say concerning the possibility of removing the increment of secondary nervous symptoms.

CASE 25. MALE. SIXTH DECADE

Persistent, Nonadjustive, Affective Reaction to Baffling Physical Disabilities and Discomforts.

Symptoms: Persistent arterial hypertension (systolic pressure ranged from 180 to 240). Frequent attacks of acute coryza extending over period of about seven months. Joint and muscular pains. Laboratory reported findings of chronic diffuse nephritis. Tense, nervous, irritable and much upset by inability to obtain relief.

Physical Factors: Long-standing sinus infection. Chronic, diffuse nephritis. Arteriosclerosis.

Discussion: This business man of fifty-nine had been an inordinately hard worker since boyhood, and could not be induced to make his work secondary to his needs as a seriously ill person. He had not cooperated with his physicians, largely because he felt baffled and impatient that they did not afford him immediate relief.

The patient whose body is damaged beyond repair, and who presents a marked increment of secondary nervous symptoms, requires careful psychotherapeutic management almost as much as he needs treatment directed toward mitigation of his somatic disorders. This patient was made to see the wisdom of taking a more businesslike attitude toward his physical condition, and to lead a more hygienic life. His blood pressure was reduced to 180 and held there even before the sinus infection was cleared up, and there was a considerable improvement of renal function, when he broke over and returned to hard work. After several weeks absence he returned to my office, confessed his fault, and agreed to go to Florida for the winter. A letter from there reported a very satisfactory degree of improvement, and absence of the secondary nervous symptoms. The ultimate outlook in his case is bad, of course.

CASE 26. MALE. SIXTH DECADE

Persistent, Nonadjustive Reaction to Physical Discomfort and Disability.

Symptoms: Sciatica, bronchial asthma. Nervous, irritable, uneasy and frantically impatient with his discomforts and the failure of his physician to relieve him.

Physical Factors: Cryptic infection (teeth). Sciatica. Bronchial asthma.

Discussion: The patient's physician had lost interest in the case and turned him over to me with the suggestion that I treat the nervous symptoms. He had not been adequately treated for physical conditions, and was glad to accept my suggestion that the most competent internist available be summoned. This procedure not only brought marked improvement of the sciatica and asthma, but rendered my services as a psychotherapeutist unnecessary.

CASE 27. MALE. THIRD DECADE

Persistent, Nonadjustive, Affective Reaction to Physical Discomforts and Disabilities.

Symptoms: Tachycardia. Indigestion. Constipation. Morning lassitude. Easily fatigued. Tense, nervous and uneasy because of inability to obtain relief.

Physical Factors: Excessive use of tobacco. *Coitus interruptus.*

Discussion: This young man had been married only a few months, and gave a history of overindulgence in the marital act, coitus interruptus and excessive use of tobacco. An irritable heart, slight anxiety attacks and a constant feeling of physical debility led him to believe that he had an obscure disease of a serious nature which the various doctors whom he had consulted had overlooked. A more hygienic mode of life, with the usual explanation of the need of reacting rationally rather than on a lower plane of adjustive adequacy when confronted by any baffling problem, led to a satisfactory recovery. It is amusing to note that several months after I had induced him to discontinue *coitus interruptus,* his wife was referred to me as a case of "'nervous indigestion." Her illness proved to be the morning nausea of pregnancy. Her case is not included in these records.

CASE 28. MALE. SIXTH DECADE

Persistent, Nonadjustive, Affective Reaction to Physical Discomforts and Disabilities.

Symptoms: Backache. Headache. Chronic diarrhea. Irritable. Easily fatigued. Nervous, uneasy, discouraged, and feels baffled by inability to secure relief.

Physical Factors: Old injury to back with resultant uncomfortable postural strain. Improperly corrected astigmatism. Ulcerative colitis.

Discussion: The x-ray, the ophthalmologist's outfit and the sigmoidoscope in the hands of the appropriate specialists, each a highly competent man in his own field, explained all but this patient's not very important secondary nervous symptoms. The patient was fortunate in having fallen into such good hands, and he quickly saw the importance of taking a businesslike attitude toward disabilities which were being dealt with as adequately as our present knowledge makes possible. Such patients are too often referred to the psychopathologist by the internist before adequate diagnostic efforts have been made.

CASE 29. FEMALE. FOURTH DECADE

Persistent, Nonadjustive, Affective Reaction to Physical Disabilities and Discomforts.

Symptoms: Pain in the right mastoid region which is at times so severe as to cause nausea. Pain in region of former appendectomy. Severe pain in the lumbar region. Pain above the eyes. Pain over right pulmonary apex. Pain is elicited by pressure over the bladder. Persistent elevation of temperature. Feels much exhausted. Neurologic and serologic findings negative.

Physical Factors: Aside from the fact that she had had an appendectomy and might have painful adhesions, and that there had been a postoperative cystitis (catheter cystitis?), the surgeon, internist and otologist could not positively identify physical factors sufficient to account for her multiplicity of symptoms.

Discussion: I could find nothing in her behavioristic history to account for her symptoms other than an obvious increment of sec-

ondary nervous reaction to the baffling somatic situation. The case continued to be a standing impeachment of the diagnostic skill of her numerous medical attendants, including myself, during the latter part of my stay.

CASE 30. MALE. EIGHTH DECADE

Persistent, Nonadjustive, Affective Reaction to Baffling Physical Disability.

Symptoms: Stubborn constipation for many years. Only heroic doses of cathartics will move the bowels. Very nervous, tense and worried on account of his constipation. Morning lassitude. Recently much frightened by a fainting attack. Blood pressure normal, and mentality well preserved.

Physical Factors: Fecal impaction. Cathartic colitis.

Discussion: After an examination of his abdomen I sent him to a man whom I could trust to remove the fecal mass palpable over the sigmoid. Enormous quantities of fecal matter were removed. He was then given a bland diet and a mixture of belladonna and bromides. His intestinal condition rapidly improved, and he had gained 30 pounds when his wife paid a friendly farewell visit to my office shortly before my departure. She assured me that her husband was no longer "neurasthenic." This was a case where removal of the physical disability was followed by disappearance of the secondary nervous symptoms.

CASE 31. FEMALE. FOURTH DECADE

Persistent, Nonadjustive, Affective Reaction to Physical Discomforts and Disabilities.

Symptoms: Unable to do any kind of housework because of crippling rheumatic arthritis. Suffers a great deal of pain. Is nervous, irritable and in a constant state of revolt against her illness and the failure of her doctor to relieve her. Very bad tonsils.

Physical Factors: Cryptic infection (tonsils). Rheumatic arthritis.

Discussion: The patient's husband was a kindly, helpful person who kept house for himself and the invalid as best he could. They seemed to be on pleasant terms with one another. The case was referred to an internist for more intelligent management than it had previously received.

CASE 33. FEMALE. SIXTH DECADE

Persistent, Nonadjustive, Affective Reaction to Physical Discomforts and Disabilities.

Symptoms: Laboratory reports give evidence of mild, chronic nephritis of diffuse type. The patient feels tired, complains of morning lassitude and is tense and nervous.

Physical Factors: Nephritis.

Discussion: Undue mental and physical strain incident to the care of an invalid husband and the direction of household work on the farm had accentuated the discomforts and disabilities of her physical disorder. Her secondary nervous reactions to baffled efforts to pull herself together and feel as comfortable and efficient as usual were easily overcome. The nephritis improved with rest, diet and reestablishment of her former equanimity.

CASE 34. FEMALE. SIXTH DECADE

Persistent, Nonadjustive, Affective Reaction to Physical Discomforts and Disabilities.

Symptoms: The patient's vision is already seriously impaired, and she is assured that the detachment of the retinae to which this is due is progressive, and will ultimately result in total blindness. Tired all the time. Marked morning lassitude. Feels tense, nervous and uneasy. Hyperesthesia of cervical and upper dorsal regions. Attacks of queer, weak sensations in the head, during which she has a momentary lapse of consciousness and sinks to the floor. She has, currently, sensations of "lightheadedness and weakness in the knees." Systolic pressure 105. Serologic findings negative.

Physical Factors: Progressive detachment of the retinae. Arterial hypotension.

Discussion: This patient's husband died and her home was destroyed by fire, but she resolutely set to work to make the necessary readjustments by capitalizing her reputation as a cook of rare ability. Her objectives were the education of her daughter and the saving of sufficient money for rebuilding her home. Then came the gradual impairment of vision, which threatened to destroy her earning power altogether. The secondary nervous reactions to the somatic situation did not appear until she began to find it difficult to locate the different ingredients which she used in cooking. Better habits as to diet and rest, and more purposely directed efforts to effect a tolerable adjustment to her misfortunes resulted in a disappearance of the attacks of momentary lapse of consciousness. When I last saw her she was obviously progressing toward the cheerful acceptance of her lot which one often finds in the blind. The blood pressure quickly rose to 130 after she began to eat more and to worry less about her difficulties.

CASE 35. MALE. FIFTH DECADE

Persistent, Nonadjustive, Affective Reaction to Physical Disabilities and Discomforts.

Symptoms: Destructive arthritis of left hip joint with serious impairment of function and constant pain. As soon as the x-rays disclosed permanent damage to the joint he became irritable, nervous, restless, self-centered and intolerant of his pain and crippledness.

Physical Factors: Residual gonorrheal infection of prostate and posterior urethra. Arthritis.

Discussion: Whatever etiologic value his hitherto unsuspected residuum of gonorrheal infection may have had, the disclosure of this infection gave the patient a sense of being able to do something for his arthritis, and the increment of secondary nervousness disappeared. He had supposed that his gonorrhea had been cured shortly after its first manifestations, which occurred more than ten years before he came under observation. Treatment of the residual infection was followed by some mitigation of the arthritis, and removed the secondary nervous symptoms.

CASE 36. MALE. FIFTH DECADE

Persistent, Nonadjustive, Affective Reaction to Baffling Physical Discomforts and Disabilities.

Symptoms: Dyspnea on exertion. Symptoms of acute cardiac dilatation. Nervous, tense, worried and much discouraged because various patent medicines have failed to relieve his "run-down condition."

Physical Factors: Acute dilatation of the heart.

Discussion: The patient came to me for a nerve tonic, declaring that none of the expensive preparations which the druggists had recommended had benefited him. He was a bricklayer, and a very stockily built man. A few weeks before he came under observation he and several fellow laborers were lifting upward on a long plank which they were using as a lever in their efforts to pry up a small building. A sudden shift of position by the other men threw an enormous weight upon the patient's shoulder. He stood his ground until they relieved him, but after that he could not work, and was unable to walk a half block at a time without feeling very tired and short of breath.

The case is interesting as showing how easily a druggist can mistake the nervous symptoms secondary to a baffling physical disorder for primary nervousness. This patient was put to bed, given digitalis, and turned over to an internist as soon as his adjustment to a rather serious somatic situation could be effected. It is my conviction that the importance of dealing intelligently with the secondary nervous reactions of heart cases is second only to that of instituting the proper physical treatment.

CASE 37. FEMALE. FOURTH DECADE

Persistent, Nonadjustive, Affective Reaction to Physical Discomforts and Disabilities.

Symptoms: Horribly deformed and incapacitated from fractures of nearly every long bone in the body excepting those of the hands and feet. The surgeon who referred her to me for examination stated that her case was one of osteomalacia with a hopeless outlook.

The patient was chronically in a state of frantic revolt against her discomforts and disabilities.

Physical Factors: Osteomalacia.

Discussion: She had a childish belief that some sort of operation would help her, and bullied her father and the surgeons into sanctioning numerous operations, none of which the surgeons performed except under protest. My records show that there had been a hysterectomy, an appendectomy, a mastoid operation and various minor operations. The intervals between operations were made as long as the patient's frantic pleas could be resisted, then the father would bring her to town and persuade the surgeons to perform whatever kind of major or minor surgery his daughter demanded. She was sent to me in an effort to persuade her that no further operations were called for, but I was unable to get beyond her wildly emotional insistence that if I couldn't operate I was not the kind of doctor who could help her.

CASE 38. FEMALE. FOURTH DECADE

Persistent, Nonadjustive, Affective Reaction to Baffling Personal Problems and Physical Discomforts and Disabilities.

Symptoms: Always feels weak, and can scarcely drag herself out of bed in the morning. Tired ache in the lumbar region. Prickling sensations in the scalp and inner aspects of the thighs. Pain in the bladder and burning urine. Attacks of nervous headache with accompanying pains radiating down the arms from the neck. On taking a quick breath feels waves of sensation "like needles" in the feet. Attacks of painful depression which come irregularly and last only a few hours each. The patient is very self-centered.

Physical Factors: Chronic cystitis.

Discussion: The patient's mother was a very nervous, hypochondriacal woman, and the former was brought up in a household in which discussions of all sorts of ailments were the prevailing topics of conversation. It is probably a safe estimate that 50 per cent of the small talk of the women of the farms and villages of the Mississippi Valley is devoted to discussions of their own and their neighbors' ailments, past and present.

Case 38's mother simply presented an extreme example of the prevailing tendency.

The patient "was always nervous," and was said to have been choreic from her 11th year until menstruation was established at fourteen. After that, until a year or so after her marriage, she was merely a rather intense girl who followed the custom of the country in talking a good deal about her passing discomforts. Her husband's occupation took him away from home a good deal, and shortly after his return from one of his trips she developed an acute cystitis. It was, doubtless, gonorrheal, but the family doctor so nearly convinced her that it was not of a specific nature that she was left ever afterward with merely a lurking doubt as to her husband's fidelity. He was kindly, generous and sincerely attached to his wife, and she did not wish to give too close attention to all sorts of happenings which might be interpreted as evidence of misconduct on his part. She was often alone for weeks at a time, and thus had time in which to fall into a vaguely uncomfortable sense of perplexity as to whether she ought to assume that her husband was behaving himself, or whether she was an unsuspicious fool. The acute bladder infection became chronic, and whenever exposure or an indiscretion in diet augmented the discomfort of it she had a corresponding increase of nervousness.

This patient responded much more favorably to treatment than had seemed likely. A clearing-up of the cystitis brought a considerable relief, and she was quick to grasp the importance of abandoning nonadjustive, affective, infrarational habits of responsiveness to her problems.

CASE 39. FEMALE. FIFTH DECADE

Persistent, Nonadjustive, Affection to Physical Discomforts and Disabilities.

Symptoms: Irregular menstruation. Hot flashes. Palpitation. Had three attacks of gallstone colic, followed by jaundice, about a year ago, and since then has had more or less indigestion, discomfort in the right hypochondrium and constipation. Is worried a great deal about her physical condition, and resists the suggestion that a cholecystotomy may be necessary. Tense, nervous, restless and irritable. Morning lassitude. Easily fatigued. Does not sleep well.

Physical Factors: Menopause. Cholecystitis.

Discussion: The patient was disgusted with me because I confessed inability to cure gallstones without recourse to the surgeon, and soon passed on to the chiropractors.

CASE 40. FEMALE. FIFTH DECADE

Reaction to Need of Acquiring Status as Physically Impaired Person.

Symptoms: Recent cessation of menses. Hot flashes. Freakish swellings of feet and hands. Sick headaches. A great variety of vague, hypochondriacal complaints referable to stomach, joints, limbs, head, eyes, throat. Feels "shaky," "nerves are all gone," etc.

Physical Factors: Precipitation of menopause by operation for removal of cystic ovaries. Abscessed teeth.

Discussion: The patient was a farmer's wife, and for years had been physically unequal to the demands that would have been made upon her had she not been able to maintain the status of a physically impaired person. The operation had relieved her of a genuine semi-invalidism, and when extraction of her abscessed teeth resulted in a return to a quite satisfactory physical condition she was left stranded with nothing more tangible than the not at all serious menopause symptoms and various preposterous anatomic diagnoses which she had received from chiropractors. Her frantic defense of her status as an invalid who must avoid all disagreeable duties was an interesting feature of her symptomatology. It seemed useless to attempt to bring insight to this lazy, stupid, easy-going woman, hence it seemed best to advise removal to town, where she could make comfortable adjustments to life without need of resorting to a defensive invalidism. Her husband's acceptance of this advice brought an immediate and radical improvement, which was attributed to the chiropractor's ministrations and my placebos.

CASE 41. FEMALE. FIFTH DECADE

Reaction to Need of Defending Status as a Physically Impaired Person.

Symptoms: Continuous bed-invalidism from forty-two to forty-eight. Complains of weak heart, dyspnea on exertion and inability

to move about without thereby producing great exhaustion. Her heart is normal, and she is in excellent physical condition.

Physical Factors: None.

Discussion: The patient stated that both her parents died of tuberculosis in their early twenties. She was always nervous and never equal to the tasks which fell to her as a farmer's wife. She was twenty-four when her only child was born, and at that time she sustained extensive pelvic lacerations which were not repaired until she was forty-two. The unrepaired laceration and, perhaps, a constitutional lack of endurance made it difficult for her to do her part of the work on the farm. Her infirmity was recognized, and she was regarded as having a legitimate excuse for evading what other country women must do or be rated as shirks.

At forty-two the old laceration was successfully repaired, and she at once began to gain weight rapidly, and to look well. At this juncture she took to her bed, complaining of a weak heart. She required her husband to remove to town, which placed upon him the burden of driving back and forth between town and his farm in order to keep things going. She gradually degenerated into a very selfish hypochondriac, and so reduced the extent of her activities that she required her husband to carry her food to her and otherwise to play nurse. Whenever her husband or a physician was present she would lie back in bed, complaining of her weak heart and her great physical exhaustion, but when neighbors came in she sat up in bed and entered with zest into the conversation.

Examination revealed no trace of cardiac dysfunction, and no other physical factor to account for her bed-invalidism. She was, in fact, a healthy woman in all respects excepting her behavioristic functions. A small table by her bedside was a miniature drug store, but the only drug which might have acted unfavorably was strychnia, which she had been taking in small doses for several years.

The self-pitying horror with which she recalled her life on the farm, when she was unequal even to the reduced demands which were made upon her, afforded a clue to her present absurd behavior. She was much interested in the psychologic examination, and talked freely about herself. When I finally suggested that we substitute hydrotherapy for strychnia, and cautiously undertake a gradual increase of physical activity she repudiated me in anger.

CASE 42. MALE. FOURTH DECADE

Reactions to Need of Retaining Status of Physically Impaired Person.

Symptoms: (After being pronounced no longer eligible for compensation under the Workman's Compensation Act): Headache. Morning lassitude. Legs feel weak and "tottery." Easily fatigued. Apt to lose control of his legs and fall when under observation, but able to walk briskly when not under observation.

Physical Factors: Concussion sustained by fall from scaffolding.

Discussion: Sixteen months before the patient came under observation he fell thirty feet from a scaffold and landed upon his feet upon a cement floor. At that time he weighed 280 pounds—his height was 74 inches. He was delirious for eighteen days after the accident, and for several weeks there was complete incontinence of bowel and bladder, with entire helplessness of the lower extremities. After the first three weeks he began to improve, and when I first saw him he had good control of bowel and bladder, and could walk several feet unsupported. At that time he was cheerful, confident of ultimate recovery, and keen to resume his trade (carpenter). Under the law he received a weekly sum which enabled his family to have such meager comforts as they considered essential to their welfare.

Six months after my first examination, and twenty-two months after the accident had occurred, he came to my office, requesting me to use my influence to have his compensation continued for another two months. He was obviously exaggerating the extent of his residual physical impairment, but not in a deliberately conscious way. Examination disclosed no physical grounds for the uncertainty of gait, weakness and easy fatiguability, and he could be tricked into walking much better than he seemed to be able to walk when he knew that he was under observation.

There was serious danger of this man becoming a burden to society. He had not yet fully regained confidence in his ability to resume the status of a fully recovered, unsubsidized person who must look exclusively to his own efforts for the support of his family. This danger was pointed out to him in terms of the tendency of all crippled things to exaggerate their disability for the sake of the protection which the herd or tribe accords to its impaired members.

A similar representation was made to the industrial commission, and it was advised that he be given compensation for a period which he would recognize as sufficient for his full restoration. He expressed his willingness to cooperate with his family doctor on this basis, and to give up his exaggerations. The survey terminated before the time for the final withdrawal of his compensation came, and no further reports are obtainable.

CASE 43. MALE. NINTH DECADE

Reaction to Urge to Acquire Status of Physically Impaired Person.

Symptoms: Has headache, is nervous and complains of vague physical discomforts which he refers to now one, now another part of his body.

Physical Factors: General asthenia of old age.

Discussion: This very old man was bright and alert, and his memory for recent as well as for more remote events was good. His daughter summoned me, and before I saw him informed me that he was able to make a very comfortable adjustment to his senile debility and petty discomforts when he felt that a physician was currently attending to his physical needs; but that if he lacked current medical attention he was apt to worry about himself a good deal, and to exaggerate the extent of his discomforts and disabilities. Their family physician had recently died, and her father was beginning to manifest the usual secondary nervous reactions which she had come to recognize as an unvoiced plea for medical attendance. He was too considerate to incur the expense involved in summoning a physician of his own initiative. A few visits restored his equanimity.

CASE 44. FEMALE. EIGHTH DECADE

Reaction to Urge to Acquire and Retain Status as Physically Impaired Person.

Symptoms: Morning lassitude. Undue fatigue and dyspnea on exertion. Weak, tottery feeling. Headache. Constipation. Vague complaints of fleeting discomforts in any part of the body to which the patient's attention might be attracted. General sense of inabil-

ity to meet the ordinary demands of life. Systolic pressure 140. Normal heart. Renal functions normal. A physically sound woman.

Physical Factors: None.

Discussion: A childless woman who had always lived the unproductive, self-indulgent life of a cultured gentlewoman of the old school. Her history suggested that she found, early in life, that a quite intangible disorder, known as a "delicate constitution," simplified the task of justifying an attitude of passive enjoyment of wealth, a kindly husband and considerate friends. A friend who had known her all her life said of her, "Mrs. X had always been slightly ailing and always very well." The death of her husband called for some readjustments, and an accession of weakness and general discomfort induced her friends to take the responsibility of smoothing the way for her. *Their mistaken efforts to reassure her as to her health seemed to threaten her status as an invalid, and she reacted thereto by increasing the outward evidences of physical disability.* These old offenders do best when they are not put on the defensive as to the reality of their invalidism.

CASE 45. MALE. FOURTH DECADE

Reaction to Urge to Acquire and Retain Status of Physically Impaired Person.

Symptoms: Morning lassitude. Easily exhausted. Feels "all in" at the end of a day's work on his farm. Vague "tired" pains in legs, arms and back. Dull headache. Palpitation. Vague epigastric and precordial discomfort. Inconstant tachycardia. Dyspnea on climbing hills. Ever present sense of inner tension, nervousness and uneasiness. Physical examination gave negative findings.

Physical Factors: None.

Discussion: The patient's domestic, social and sexual reactive relationships seemed to be of an undisturbing nature. He operated a farm which was too small to carry the expense of a hired helper except during certain "rush times," such as hay harvest, putting up ensilage, etc. This meant that during the greater part of the year he had to do alone whatever there was to be done in the fields and barns. The "one-man" farm is, traditionally, an unhealthy place for any person who is temperamentally unfit to stand a steady

grind of hard work, long hours and loneliness. *Case 45* was temperamentally unfit for the vocation which had been thrust upon him by circumstances, and he was gradually convincing himself that he was physically unequal to it. He received the advice that he sought, viz., to sell or lease his farm and seek town occupation.

CASE 46. MALE. THIRD DECADE

Hypochondriacal Reactions to Desire to Acquire Status of Invalid Pensioner.

Symptoms: Although in splendid physical condition this husky young ex-service man goes from one medical office to another demanding examination. He complains only of weakness. He lacks the shrewdness and fertility of the deliberate malingerer, and is merely unhappy that even his own people will not believe that he is physically in a bad way.

Physical Factors: None.

Discussion: While in the naval service he developed a nonspecific penile ulcer. Repeated Wassermann tests gave uniformly negative findings. When the ulcer had healed and the naval physicians were convinced that he was not syphilitic he was informed that he would be discharged from the hospital and returned to duty. He protested that he had a weak feeling in the legs, but was taken off the sick list. He then deserted (the war was over at the time of his desertion, but the period of his enlistment had not expired), was shortly afterward arrested, and finally was sent to a hospital for insane. After his release from the hospital he returned to his father's farm, and for a while had an excuse for idleness furnished him by a physician who treated him for a nonexistent varicocele. Persistent effort to secure compensation from the government was unsuccessful, and his father repudiated him as a lazy malingerer.

I was wholly unsuccessful with him. During the period which elapsed between securing a specimen of blood and receiving a report from the state Wassermann laboratory he came to my office daily, but refused to amplify accounts of himself beyond insisting that he was weak and ill. A negative report from the laboratory and my efforts to explain his situation to him seemed to disgust him, and he discontinued his visits.

CASE 47. MALE. THIRD DECADE

Reaction to Need of Acquiring Status of Physically Impaired Person. Persistent, Nonadjustive Affective Reactions.

Symptoms: Vague anxiety attacks. Painful morning lassitude and almost unremitting sense of fatigue throughout the day. Unable to engage in any kind of useful activity because he feels weak and ill. Nervous, tense and uneasy. Feeling of detachment from reality. Depressive sense of defeat. Hypochondriacal insistence on reality of status as a "sick man." Constipation. Morning nausea. Fine tremor of hands. Headache. Tired backache.

Physical Factors: Heat prostration one year ago. Coitus interruptus.

Discussion: About two years before he came under observation the patient married a girl of whom his family disapproved. He was then working as a mechanic in a large factory, and was in excellent health. Shortly after their child was born, about one year later, he was thrown out of work by the closure of the factory. He and his wife then went to her father's home in the country. He had always worked indoors, and his occupation had not been of a kind to develop his naturally poor physique. He was now spurred by pride and ambition to compete with his seasoned father-in-law and brothers-in-law in the strenuous outdoor work of the farm during the hottest month of the year. Mild heat exhaustion was the result, and as soon as he had recovered from the immediate effects of this his wife's people expected him to keep pace with them in the fields. He could not do so, and was reproached for his apparent laziness. From that time onward his reaction to his physical impairment and inferiority, and to the unsympathetic attitude of those with whom he lived, was essentially of a kind with the reactions that are manifested by monkeys under similar conditions: he was obviously exaggerating, in his behavior, the evidences of his weakness, discomfort, lack of endurance, etc.

His wife's family were too shrewd to be deceived by the exaggerations, and too stupid and unsympathetic to appreciate the fact that he was actually ill, and incapable of keeping the pace set by his sturdy companions. His own people refused to be reconciled to his wife, and she was torn between a fear that he might be seriously

ill and a suspicion that he might be, as her people believed, a lazy, hypochondriacal, self-centered fellow.

He was thus doomed to live upon the charity of persons who despised him until he could find mechanic's occupation, for which he was best suited; and the industrial depression of 1921 made this solution of his problem presently impossible. In the circumstances, his wife did not wish to risk pregnancy, hence he resorted to coitus interruptus.

A sympathetic estimate of his situation gained his confidence, and he quickly saw the importance of cultivating a more rational reactive attitude toward his need of acquiring the status of a physically impaired person. The possibility that the coitus interruptus might be a factor in the determination of his anxiety attacks was explained to him, of course. He decided to work within his capacity, regardless of the jeers of his fellows, until he could find indoor work as a mechanic.

CASE 48. MALE. FIFTH DECADE

Persistent, Nonadjustive, Affective Reaction to Impairment of Advantage by Impersonal Agencies.

Symptoms: Excessively tense and nervous. Difficulty in sleeping. Will break down and weep in the midst of an effort to laugh at his own lack of self-control. Loss of sense of fatigue. Feels as if falling forward when walking. Parkinsonian tremor of hands. Face flushed and mobility of facial expression somewhat lessened.

Physical Factors: Early paralysis agitans suspected.

Discussion: A serious business reverse plunged this patient deeply into debt, and the hard times of 1921 made it impossible for him to work his way out of his difficulties as quickly and easily as, in better times, his enterprise and ability would have made possible. His bankers assured him that his business was fundamentally sound, and that they would tide him over the depression, but he could not escape the conviction that he was headed toward bankruptcy.

The illness of a presently irreplaceable employee threw an added burden of work upon the patient at this juncture, and he finally lost his ability to do much else than to worry about his business problems in a wholly unproductive way. He had been working in-

ordinately long hours and accomplishing very little when he staggered into my office and announced that he had "lost his nerve."

The suggestive tremor of his hands, subjective propulsion, flushed face and immobility of facial expression suggested, of course, paralysis agitans. He was required at once to observe better habits as to eating, resting, working and exercising. Certain diversions in which he would ordinarily have found considerable satisfaction were rigidly prescribed as a part of his treatment. He was instructed to write out his business problems in tabular form, and to balance against them every possible course of action that might be justified by any of the unfavorable future developments which he was gloomily predicting. Thus, he was required to answer such questions as, "What would you do if, as you fear, your orders for raw material were refused on account of an exhaustion of your credit with the persons who supply these things?"

The patient was easily led to appreciate the importance of demanding that his affective reactions to his problems lead to definitely terminative rational reactions to them. He fell into a habit of coming to my office and abruptly exclaiming, "Now here is a new problem—a poser! What in God's name would you do about it?" My sarcastic suggestion that I would just sit down and worry about it and take good care not to throw my reason in gear with it was what he sought, rather than specific advice as to the solution of the newly arisen business problem. Once, when he fell into a panic because an unexpected and irretrievable loss had just been sustained, he was helped by the reminder that a sensible man who loses a leg soon finds it more profitable to plan the most adequate possible adjustment to his one-leggedness than to spend his time feeling badly about it.

The one point that I sought to illustrate in all our talks was this: A man who is baffled by a disadvantage, the extent of which he cannot presently estimate, and to which he can make no presently terminative adjustment, will lose his balance or keep it, according to his choice of one of two possible modes of responsiveness to it: (1) He may, in common with all baffled mammalians, resort to hit-or-miss repetitions of affectively driven, infrarational adjustive movements, instinctively trusting that one of his innately held repertoire of reactions to baffledness may lead him out of his difficulties. (2) He may demand that his affective responses to the baffling problems

drive him under the exclusive direction of purely rational reactions to his difficulties.

The patient made a good recovery, not only from his floundering nervousness, but from the ominous symptoms of paralysis agitans. I suspect that the latter symptoms were merely held in abeyance by the institution of a more hygienic regime and the use of small doses of hyoscine. It has been my experience that patients whose early symptoms of this disease have disappeared under the administration of hyoscine tend to relapse in the end and to respond to this drug less and less favorably as time goes on.

CASE 49. FEMALE. SIXTH DECADE

Persistent, Nonadjustive, Affective Reaction to Threatened Impairment of Advantage by Impersonal Agency.

Symptoms: Tense, irritable, uneasy and worried. Tired backache. Vague pains in arms and legs. Overshadowing sense of impending invalidism and death. Initial examination of urine disclosed 2 per cent sugar. After a few weeks there was 0.125 per cent sugar.

Physical Factors: Glycosuria.

Discussion: The patient stated that her family physician, who had removed from the city, found high percentage of glycosuria about a year before she came under my observation, and had made a diagnosis of diabetes. He prescribed a rigid diet and gave her cacodylate of sodium intramuscularly. A more comforting prognosis, a reduction of her somewhat too strenuous activities and a lecture on the unwisdom of infrarational responsiveness to a situation which was controllable, followed by visits of reassurance, resulted in a considerable decrease of the secondary nervous symptoms.

CASE 50. FEMALE. FIFTH DECADE

Persistent, Nonadjustive, Affective Reaction to Danger of Suffering Serious Impairment of Advantage by Impersonal Agency.

Symptoms: Hot flashes. Irregular menstruation. Tachycardia. Much attention to and worry about digestion, which seemed to be quite normal. Pains in knees, across hips, in lumbar region, under

shoulders and in arms. Inconsistent polyuria. Hypochondriacal panics, elicited by almost any passing, trivial discomfort.

Physical Factors: Menopause.

Discussion: The patient had recently lost four sisters, each of whom had died of gastric carcinoma. A brother had recently died of nephritis. Although she was, ordinarily, a sensible woman, the onset of the menopause carried with it an inability to continue her previously adequate adjustments to the possibility that she might share her sisters' fate. She disclosed no tendencies toward the development of habits of indirect reaction to personal problems, hence it was not difficult to teach her how to cultivate habits of rational reactiveness to her current discomforts and to future possibilities suggested by the family history. Her hot flashes, menstrual irregularities and lowered threshold of emotional responsiveness continued; but the other nervous symptoms disappeared with a rapidity which greatly reassured her. Disappearance of the tachycardia and polyuria especially impressed her with the value of effecting a rational modification of the reactive value of a justly troublesome situation.

CASE 51. MALE. FIFTH DECADE

Persistent, Nonadjustive, Affective Reaction to Threatened Impairment of Advantage by Impersonal Agencies.

Symptoms: Neurologic signs of an arrested tabes. Extreme morning lassitude. Inability to divert mind from consideration of what it meant to have a disease which might ultimately wreck his health and deprive his family of his support. Tense, restless, uneasy. Subjective attention disorder. Baffled, "caught-in-a-trap" feeling.

Physical Factors: Syphilis. Tabes.

Discussion: This patient had been treated by a local physician whose ability to manage, therapeutically, syphilis of the nervous system is of a high order. There had been a complete arrest of all active symptoms of tabes, a marked gain in weight, and only the secondary nervous symptoms to justify any alarm on the patient's part. The patient's inability to face the tabes situation in terms of its future possibilities had led him to seek the comforting assurances of cultists who interpreted the arrest of his disease as evidence

of a mistaken diagnosis. They made, of course, the usual diagnosis of spinal maladjustment, and promised to cure him. In the end he found that he could not successfully cheat himself by this procedure, and came to me, seeking reassurance. It was not difficult to persuade him that the wisest policy to pursue was honestly to formulate his tabes problem in terms of the realities of the situation, and to decide just what to do about it. The proposition that feeling is of value only as it leads to constructive doing appealed to him as a business man. The results were satisfactory, and he cheerfully returned to his physician and placed upon him the responsibility for doing whatever could be done by way of holding the tabes in check.

CASE 52. FEMALE. FIFTH DECADE

Persistent, Nonadjustive, Affective Reaction to Threatened Impairment of Advantage by Impersonal Agency.

Symptoms: These have their focus in the fact that a physician has recently told her that she has mitral insufficiency and has prescribed digitalis. She goes to pieces easily, is excessively nervous and tense and can think of nothing but her heart. Insomnia. Persistently reacts to the situation as to a dreadful, ever-present shadow.

Physical Factors: Mitral insufficiency with good compensation. Moderate cardiac hypertrophy.

Discussion: Her husband died when she was thirty-nine, leaving to her the support of two young children. She had been a school teacher before her marriage; on being left a widow she resumed her former occupation. Her adjustment to widowhood had been good, and matters went smoothly for three years. Then, just before she came under observation, she consulted a physician for a minor ailment. He told her that she had valvular heart disease, that her heart was enlarged and that she must take digitalis. The above-described symptoms quickly followed.

The significance of mitral insufficiency with good compensation was explained to the patient, and she was asked to join me in estimating her physical problem in the same purposeful way in which she would join her banker in estimating a financial problem. The unlikelihood of a sound heart muscle failing a healthy woman of

forty-two who had no occasion to make sudden, violent physical exertion was explained to her by means of hastily sketched diagrams. It was not difficult to convince her that she did not need to alter her present mode of life, that she did not need digitalis, and that she need only follow a few simple precautions in order to lead, for an indefinitely prolonged period, a healthy, useful life.

The one talk restored her equanimity, and when I encountered her on the street several months later she assured me that she had been very well ever since. Her family doctor had simply been too busy, hurried and impatient to be tactful.

CASE 53. MALE. FIFTH DECADE

Persistent, Nonadjustive, Affective Reaction to Threatened Impairment of Advantage by Impersonal Agency.

Symptoms: Morning lassitude. Headache. Vague, burning sensations in legs. Constipation. Unable to shake off overshadowing sense of impending disaster following contact with a tabetic two weeks ago.

Physical Factors: Syphilis. (?)

Discussion: The patient, a man of forty-seven, had some kind of penile ulcer at twenty-five and was given the usual mercurial-iodide treatment of that period. At thirty-six (?) he was given a course of salvarsan injections. There had been no symptoms at any time since the healing of the initial lesion (which might not have been syphilitic), but on encountering an old friend with tabes a fortnight before he came under observation, he developed the above-described symptoms. He talked matters over, and agreed to accept the report from the state Wassermann laboratory as determinative of his future attitude toward the situation. A negative report rendered further treatment unnecessary.

CASE 54. MALE. THIRD DECADE

Persistent, Nonadjustive, Affective Reaction to Threatened Impairment of Advantage by Impersonal Agencies.

Symptoms: Persistent, haunting dread of developing paresis or tabes. Baffled sense of inability to rid himself of a horrid disadvantage. Morning lassitude, tired backache. Heavy sensation in

top of the head. Feels dizzy a good deal. Tense, worried and nervous. Stubborn constipation. Entire absence of serologic and neurologic findings.

Physical Factors: This young man of thirty was infected with syphilis at nineteen, and was promptly and efficiently treated. His physicians had given him a lurid account of the possible later developments of syphilis in order to hold him to a carefully planned therapeutic and hygienic regime. This gave him a sense of being confronted by a disadvantage which would ever baffle his efforts to overcome it. He would strike some sort of balance with his situation, only to be upset by contacts with tabetics or stories of paretic developments in persons known to him.

His case well illustrates the pathologic value of nonrational types of reaction to situations which must habitually throw the rational reactive tendency in function in order to make any sort of adequate adjustment possible. The significance of six successive negative Wassermann tests, uniformly negative spinal fluid examinations and an absolute lack of neurologic findings was pointed out to him. He was then given a realizing sense of the importance of formulating the whole syphilis problem in such a way as to give it a rational reactive value in place of its previously lower type of reactive value. He made a gratifying recovery, and wrote to me several months after I left, assuring me that there had been no occurrence of the old reactive habits.

CASE 55. MALE. SIXTH DECADE

Persistent, Nonadjustive, Affective Reaction to Impairment of Advantage by Impersonal Agency.

Symptoms: Tense, nervous and uneasy. Unable to escape haunting, overshadowing dread of a recently operated cancer. Constant pain in the head. Insomnia.

Physical Factors: Carcinoma of the bulbar conjunctiva.

Discussion: This man of fifty-six had consulted me because he was chronically tired and irritable. He and his wife had been married about twenty years and they had always longed for children, but she seemed to be barren until he was nearing his fifty-fifth year, when she became pregnant. The birth of a healthy child so spurred his ambition that he not only pursued his usual occupation as a

night-shift pumper, but worked eight hours a day in a factory. Loss of sleep and overexertion had resulted in the tired, irritable condition for which he first consulted me. He was simply a tired man, and with the institution of a more hygienic regime he recovered his health.

He went along contentedly for several months, and then, on consulting an ophthalmologist, was told that he had a carcinoma of the bulbar conjunctiva. This was promptly operated, and the patient returned to his home a few days later, convinced that in time there would be a recurrence of the malignant growth and a horrible death. He lacked courage to press the ophthalmologist for a satisfying frank prognosis, although the latter said, reassuringly, "The operation has been very successful, and you will be all right." To the patient this meant, "You will be all right—for a little while."

When, finally, his ever-present horror of what he believed the future to hold for him rendered his mental discomfort intolerable he came to me, asking for a nerve sedative. My first step was to remind him of the importance of facing the situation frankly in terms of the ophthalmologist's estimate of it. I agreed to obtain this directly, and to conceal nothing from the patient. It was a dramatic moment for him as he sat near my elbow while I held the telephone conversation with the doctor whom we both believed to be conspicuously competent and honest. I was assured that the cancer had been detected in its very inception, that the operation was wholly successful and that recurrence was unlikely. The future could be safeguarded by keeping the patient under observation, etc.

This greatly relieved his mind, and he gave close attention to my remarks to the effect that, whereas cancers of the abdominal viscera are usually hopeless, superficial ones, by reason of their greater accessibility, different anatomic relationships, etc., are now regarded as safely curable whenever they are diagnosed and treated early. A long talk on malignancy of different forms, with sketches to illustrate the important points of this information, added to his sense of security. Doctor Philip King Brown's always helpful story of the horse which ceased to shy at an unfamiliar object, once this animal had been compelled to approach and inspect the former bugaboo until it became a commonplace thing in the horse's scheme of things, clinched the matter for this patient, and he returned home with his equanimity reestablished.

CASE 56. FEMALE. SIXTH DECADE

Persistent, Nonadjustive, Affective Reaction to Threatened Impairment of Advantage by Impersonal Agency.

Symptoms: Ten weeks ago she began to experience numb, clubby, "gone-to-sleep" sensations in her hands. She could not handle a needle satisfactorily because her hands felt so awkward. After that her toes began to feel numb, as if they were "asleep," and this paresthesia at times extended up the legs and arms. She was in a very seriously worried, nervous condition, having been told that her trouble was creeping paralysis. She felt that she was living in the shadow of a horrible invalidism, with complete helplessness and early death impending.

Physical Factors: Whatever may be the cause of acroparesthesia.

Discussion: This patient had always worked very hard at scrubbing, washing and sewing. When a diagnosis of acroparesthesia was made and its comparatively harmless nature explained to her the increment of secondary nervous symptoms disappeared.

CASE 57. FEMALE. FOURTH DECADE

Persistent, Nonadjustive, Affective Reaction to Threatened Impairment of Advantage by Impersonal Agency.

Symptoms: Pain in the top of the head. Worried. Easily upset. Morning lassitude. Vague pains in the loins. Tendency to attend to every minor discomfort and to regard it as symptomatic of diabetes. Constipation. Malnutrition.

Physical Factors: None.

Discussion: This unsuspecting wife had been infected with gonorrhea by her husband and had developed a severe cystitis. The family physician sought to protect her husband and to mislead her by telling the patient that she had diabetes. She knew that one must avoid certain kinds of food in the treatment of diabetes, and that polyuria is a symptom of the disease. She also knew that it is a very serious disease in persons under forty. Although she was confident that she had polyuria, I was able to convince her, by having her save and measure a series of 24-hour specimens, that this symptom was not present. The entire absence of glycosuria even

after she resumed a full, unrestricted diet finally convinced her that she did not have diabetes. Fortunately the gonorrhea had been well treated, and there was no evidence of residual infection. I did not disillusion her as to her husband's fidelity, but felt justified in making her family physician bear the *onus* of his dangerous lie to her. She recovered.

CASE 58. FEMALE. THIRD DECADE

Persistent, Nonadjustive, Affective Reaction to Impairment of Advantage by Personal Agency.

Symptoms: Morning lassitude. Feels tense, nervous and weary most of the time. Tired ache in the lumbar region. Indigestion. Constipation.

Physical Factors: None identified.

Discussion: This patient was found to be entertaining a persistent sense of grievance toward her brother, who contributed nothing toward the family support and refused to do various household chores which fell to her lot when she returned home at the end of her day's work in a shop. Before the family fortunes declined the brother attended college, and after that he was too proud to accept the only remunerative work available, viz., manual labor. This threw the burden of supporting the family upon the sister, who felt that her brother ought at least to have the decency to wash the dishes off which he had eaten the food purchased with her earnings.

She improved after the adoption of a more effective attitude in dealing with the lazy brother.

CASE 59. FEMALE. FIFTH DECADE

Persistent, Nonadjustive, Affective Reaction to Impairment of Advantage by Personal Agencies.

Symptoms: Present illness began about six weeks ago with a rapidly increasing sense of mental and physical inadequacy which was especially marked during the early forenoon. She had a good deal of tired backache, wept easily, felt tense and had a general sense of being about to go to pieces. She tried to push through her discomforts and inadequacy, but had attacks on the street and in friends' houses during which she felt weak, dizzy and fearful lest

she lose self-control. She finally took to bed as the only place in which she felt secure from embarrassing attacks of "nerves." In bed she was tense, nervous, emotionally unstable and unable to give attention to anything but her domestic troubles. She complained that her nerves "seemed to sting." Hot flashes. Insomnia.

Physical Factors: None.

Discussion: The patient's husband had been incurably adulterous for years, and she had found it difficult to keep her suspicions, jealousies and sense of grievance under control from early in their married life. Eighteen years before she came under observation she had a nervous attack, much similar to the present one, which lasted about four months. It was precipitated by conclusive evidence of her husband's infidelity. The present attack directly followed her discovery of a letter which her husband had received from a woman with whom he was carrying on an intrigue.

It was evident from the patient's account that her husband was kindly and generous in his ordinary dealings with her, and that the only source of friction between them was his polygamous behavior. Matters were discussed with her according to the general procedure described in Part II of the text. She was regaining her equanimity when the survey terminated.

CASE 60. FEMALE. SIXTH DECADE

Persistent, Nonadjustive, Affective Reaction to Impairment of Advantage by Personal Agencies.

Symptoms: The patient states that she is "aquiver with nerves from head to foot." She is very tense and restless. Abdomen feels tight. Hot flashes. Pain in region of right ovary. Pulse rate 60—pulse intermittent. Stubborn constipation. Insomnia.

Physical Factors: Menopause. Possible difficulty local to right ovary.

Discussion: The patient had her left ovary removed at forty-one, an hysterectomy at forty-nine and a double herniotomy at fifty-one. She was fifty-two, and obviously in the menopause, when she came under my observation. The operations had doubtless reduced her resistance to the general wear and tear of life, but examination revealed the fact that the most important factor was her unsatis-

factory domestic situation. Her husband had always been an irritable, quarrelsome person with whom nobody could have lived a reasonably harmonious life. A neighbor, who was one of my patients and a very dependable informant, assured me that the wife was a naturally sensible, kindly woman and the husband quite as disagreeable as he had been reported to be. This was consistent with my own impressions. Whatever the merits of her case against her husband, the patient was obviously reacting to an ever-present sense of grievance against an unamiable spouse. Some degree of improvement was obtained.

CASE 61. FEMALE. FOURTH DECADE

Exophthalmic Goiter. Persistent, Nonadjustive, Affective Reaction to Impairment of Advantage by Personal Agencies.

Symptoms: Persistent tachycardia. Moderate exophthalmos. Fine tremor of hands. Episodes of diarrhea—currently constipated. Emotional instability. Pain in top of head with drawn sensation in back of neck. Sick headaches. Morning lassitude. Easily fatigued. Ten pounds underweight. Tense, nervous, uneasy and unable to divert mind from unfair treatment accorded her by husband and mother-in-law.

Physical Factors: Exophthalmic goiter. Gall bladder drained at twenty-eight for cholelithiasis. Severe attack of influenza at thirty-three.

Discussion: The patient's mother-in-law is jealous of her, and has always dominated the husband, who joins his mother in treating the wife coldly, as though she were an outsider. There is very little open friction in the family, and on the few occasions when the mother-in-law has been absent for a period the husband has shown a disposition to treat the patient much less coldly. It proved to be simply a case where a mother was unwilling to surrender her son to another woman, and succeeded in being dominant in his affections after his marriage.

The patient proved to be a gentle, amiable, sensitive woman who was too delicate to express her adequately grounded sense of grievance by bringing matters to an issue. The mechanisms of "mother-fixation" were explained to her, and she was advised to charge the husband and his mother off to profit and loss. She had never been

pregnant, and had no hope of children, hence it was necessary to encourage her to define values which she might bring into her life as a substitute for the domestic satisfactions of which she was unfairly deprived. Her ability to understand the value of rational adjustive habits with reference to the grievance-inciting situation made it possible to effect a substantial improvement. The headaches, uncomfortable sensations in the neck and top of the head, morning lassitude, fatiguability, tension and uneasy, aggrieved affective state disappeared. The exophthalmos remained, and with it a tendency toward moderate tachycardia whenever she was tired or felt hurried.

CASE 62. FEMALE. FIFTH DECADE

Persistent, Nonadjustive, Affective Reaction to Impairment of Advantage by Personal Agencies. Drug Delirium.

Symptoms: Restless, confused, disoriented, fearful and hallucinated.

Physical Factors: Hyoscine and bromide intoxication. Menopause.

Discussion: The patient's husband was engaged in an occupation which required him to have dealings with a class of young women who are apt to be rather aggressively unvirtuous. It was evident to the patient that he took advantage of his opportunities for adulterous conduct, and that his flimsy excuses for keeping very late hours and spending money beyond his means were lies with which he sought to pacify her. For about a year before she came under observation she found herself growing increasingly tense, nervous, unhappy and incapable of diverting her attention from the fact that her husband was treating her badly. Her mind dwelt aggrievedly upon matters pertaining to his expenditure of money on young sluts, his impairment of the family's standing in the community, her own futile economies, her husband's lies to her, his unwillingness to be alone with her, etc.

About four months before she came under observation she missed an expected menstruation, and shortly afterwards began to experience a marked reduction of ability to control her nervousness. Finally, she took to her bed in an effort to pull herself together. The physician who was summoned administered heroic doses of bromides

for a while, and when she began to show some confusion he gave her hyoscine.

The delirium had been present only two days when she came under observation, and withdrawal of the sedatives was shortly followed by its disappearance. The patient was induced to discuss her grievances freely, and an effort was made to make her understand the necessity of substituting rational for infrarational, persistently affective reaction to the situation. The procedure followed in dealing with the wives of incurably adulterous husbands is given in Part II and will not be given here. The patient decided to continue under the same roof with her husband for the children's sake, and was improving satisfactorily when the survey terminated.

CASE 63. FEMALE. SIXTH DECADE

Persistent, Nonadjustive, Affective Reaction to Impairment of Advantage by Personal Agency.

Symptoms: Beginning with her married life, the patient has been subject to attacks of headache which cover a period of about three days each week. The headache begins when she rises in the morning as a dull, diffuse pain, but it gradually grows more intense and is localized in the occiput or in one temple. Occasionally the pain shifts to the jaws. There is no nausea associated with these attacks, and they do not interfere with eating, sleeping and a certain amount of social activity. She has, currently, constipation, morning lassitude and a disagreeable sense of inner tension.

All of the above symptoms are usually in abeyance throughout even prolonged periods of absence from home. Physical examinations negative.

Physical Factors: None (the patient had been carefully examined by competent internists, ophthalmologists, etc., before she came under observation).

Discussion: This must be limited to the statement that a grievance-inciting situation existed at her home, and that she reacted to it persistently, affectively and without adjustment while she was at home. Whenever she was away from home the absence of tangible reminders of her unfair treatment enabled her to adopt an attitude of resignation.

CASE 64. FEMALE. THIRD DECADE

Persistent, Nonadjustive, Affective Reaction to Baffled Major Cravings.

Symptoms: Morning lassitude. Tired backache. Headache. Very tense, nervous, and restless. Insomnia. Constipation.

Physical Factors: None.

Discussion: The patient was married at twenty to a rather dull fellow with whom she lived a colorless, uneventful life until she was twenty-seven. She was then thrown in contact with an interesting married man. Neither suspected (according to her account) the trend of their interest in one another until, under somewhat dramatic circumstances, they impulsively disclosed their love to one another. There was no misconduct, and they both agreed that it was all wrong, and that they must remain loyal to their obligations to their respective spouses. They were too fine—or too unsophisticated—according to the point of view one takes—to follow any other course of action but that of renunciation. The man sought employment in another community, and the unhappy lovers made no effort to communicate with one another.

The patient was unable to escape a painful, persistent longing for her lover and for freedom from marriage obligations which had become irksome. Considerable improvement as to her nervousness and some mitigation of her unhappiness were derived from a discussion of alternative values and the assurance that the deepest of all satisfactions is obtained from loyalty to one's personally elaborated code of ethics. I told her that if she were sure that she was following her own convictions and not extrinsically imposed conventions she had already shown herself to be big enough to be willing to pay the hard price involved in being loyal to herself. It was helpful to her to obtain a definite understanding of the fact that the problem was, broadly speaking, a biologic one, and that the directive principles to suit her case must be sought in terms of what the good of the race as a whole requires of individuals in their dealings with matrimonial problems of this type. A more impersonal view of the matter seemed to make her problem less painful.

CASE 65. MALE. FIFTH DECADE

Persistent, Nonadjustive, Affective, Reaction to Baffled Major Cravings.

Symptoms: Morning lassitude. Headaches. Feels tired, nervous, tense and bored with life. Constipation. Indigestion. Hemorrhoids. Chronic cystitis traceable to old gonorrheal attack.

Physical Factors: Cystitis. Hemorrhoids.

Discussion: This patient had led an irregular, wandering life. He was qualified by training and natural capacity to occupy a particular kind of position which is to be had only in cities and the larger towns. During his twenties and thirties he was on the uptrend, i.e., he held increasingly important and remunerative positions, but as he approached his fifties he found himself slipping backward, and when he came under observation he was holding a position which he would have scorned in his younger days. His nervousness was traceable to his longing for what his shiftlessness and instability had lost him. There was a considerable improvement while he was under observation—he could be stimulated to take a more hopeful and more purposeful attitude toward the future; but a letter received eight months after the termination of the survey reported a relapse to the condition which was present when he was first examined.

CASE 66. FEMALE. FIFTH DECADE

Persistent, Nonadjustive, Affective, Reaction to Baffled Major Cravings.

Symptoms: Morning lassitude. Tense, nervous, uneasy and restless. Fits of depression. Irritable. Easily upset. Indigestion.

Physical Factors: None.

Discussion: The patient's father was a cultured man, and she always found him a very congenial companion. Her mother was rather dull, limited as to education, kindly, unselfish and a disorderly housekeeper. The father died ten years before the patient came under observation. They were left with an income on which they could live in a mean way, so the patient secured employment. Her home life was dreary, she missed her father, and she did not

feel that her position was apt to lead to advancement. Not long after her father's death she formed a friendship with a young man of considerable means, no occupation and a disinclination for matrimony. He was many years her junior, but they had many intellectual interests in common. His interest in her seems to have been a rather sexless affair, but she loved him and hoped that he might some day decide to settle down and turn the long-continued intellectual alliance into a matrimonial one.

About a year before the patient came under observation she was operated for appendicitis, and during this period her young man removed to a far distant place and clearly showed a desire to have their friendship lapse. Her convalescence from the operation was slow, and she was so unhappy over the termination of her rather one-sided love affair that she could not summon initiative to return to her former position. This meant living at home on a tiny income with an uninteresting mother whose housekeeping was a constant offense to the patient. She felt that there was no direction in which to turn for the satisfactions that would make her life worth living, and the above-described symptoms developed and rapidly grew worse.

It was not difficult for this patient to appreciate the importance of requiring her affective discomfort—the unsatisfaction—to impel her to do something in an adjustive way about her situation. She abandoned infrarational, persistently affective, nonadjustive habits of responsiveness to her baffled cravings and sought employment, congenial friends and a different reactive relationship to a mother whom she could not hope to make over. A recent communication reported that her recovery had been fully established.

During the first five years of my career as a psychopathologist, when my work was in institutions for the insane, many of the current problems in psychopathology were formulated in terms of Kraepelinian nosology. One of these problems had reference to the superficial resemblance of the neurasthenia of Beard's[7] definition to the depressed phase of manic-depressive insanity. Later, on the adoption of a behavioristic viewpoint, this problem recurred in my experience in the form of the following question:

"Why do some patients react to a persistent baffling of their major cravings by developing a manic-depressive type of depression, whilst other patients react to it by becoming merely neurasthenic?"

A careful study of the depressed patient will usually show that something has happened to bring a conviction that habitually sought major satisfactions are no longer obtainable, and if one can convince the patient that this conviction has no foundation in fact before the depression has progressed too far the depressive attack can usually be aborted. But many patients of the neurasthenic type are also found to be reacting to a similar baffling of major cravings, and if they can be shown a way to obtain current satisfaction of such cravings they cease to be neurasthenic—provided, of course, that no other important determinants of neurasthenia are operative. I do not pretend to offer a fully adequate solution of this problem, because there always remains the possibility that constitutional features of neuro-endocrine organization may play an important rôle in determining that one patient may develop a manic-depressive depression in reaction to conditions to which another patient may react neurasthenically. But I believe that there is a tangible and presently manageable factor which is disclosed by examination of the typical depressed patient, which is not found in the history of the merely neurasthenic patient. The individual who has recurring attacks of essentially insane depression which are terminated by accessions of an unnatural degree of good spirits and self-confidence has, typically, an early acquired reactive set which, when it is directly reflected in consciousness, is described as a sense of inferiority—a felt incapacity for those adjustments on which depend the satisfaction of the individual's major cravings. *Many of us are, of course, handicapped by a sense of inferiority, but we are not in the circumstance of the patient whose current reactions to life are essentially compensatory reactions to a prevailing inferiority reactive-set.* Among monkeys one usually finds one or more members of the tribe who either habitually manifest submissive reactions or lose a comfortable reactive relationship to the tribe by too frequent and inappropriate manifestations of defensive bluffing. The same is true, to some extent, of large bands of horses which have a common range.

CASE 67. FEMALE. SEVENTH DECADE

Persistent, Nonadjustive, Affective Reaction to Unsatisfied Major Cravings.

Symptoms: Unusually severe morning lassitude. Never free from a tired feeling. A good deal of mild depression which never interferes, however, with her ability to accept every opportunity for a friendly chat with neighbors or her physician. Hungry for sympathy, affection and companionship. On cloudy days feels as though the ceiling of her cottage were crowding down upon her. Restless, uneasy and unsatisfied. Always feels tense. Drinks bromide solution to alleviate mental unrest.

Physical Factors: None.

Discussion: A gentle, futile sort of person—a widow of sixty-one. She reared a family of respectable, self-supporting children, and before they were old enough to leave home her husband died. After all the children but one unmarried daughter had left home the patient married a second time. Her second husband was a drunken, worthless scamp whom she married only to effect an escape from loneliness. She was compelled to divorce him, and never afterward regretted this step. Her married children had families, and were unable to contribute to her support. This left her dependent on the unmarried daughter for her support.

The daughter worked hard all day in a factory and spent her evenings and holidays delving in the literature of an austere religious cult or attending their frequent meetings. The rigorously ascetic, much preoccupied, coldly intellectual daughter and the warm-hearted, superficial, strongly gregarious mother were not congenial companions, although there was no serious friction between them. The mother would putter about the house all day, lonely for the old days of affectionate ties with a house full of children, and in the evening she would be subjected to the boredom of theological discussions in which she had no interest. The daughter's friends who came in or whom they visited were wholly preoccupied with occult problems in scriptural interpretation, and the patient longed for chatty, gossipy neighbors.

The daughter *(Case 106)* was also my patient, and I knew her to be too incorrigibly religious ever to attain her mother's level of

comfortable gregariousness, hence the situation was a difficult one. The mother's addiction to bromides was made an excuse for frequent visits to my office. She was given a bottle of bromide solution, and instructed to make it last as long as her self-control would permit, and to make frequent reports of progress. She would come to my office and proudly announce that since the last visit she had taken only an estimated fraction of the bottle, and then unburden herself of whatever she had to talk about. If there was a long wait in the outer office my secretary was always ready to fill in the time pleasantly with talk. It was impossible to restore to her the old sources of satisfaction, but with the acquisition of more initiative in extending her acquaintance among people of her own kind she made a considerable improvement.

CASE 68. FEMALE. SEVENTH DECADE

Persistent, Nonadjustive, Affective Reaction to Unsatisfied Major Cravings.

Symptoms: A widow of sixty-six whose chief complaints are extreme morning lassitude, emotional instability, loneliness and a hungry sense of lacking the things that she must have to make life tolerable. Dizzy at times. Weeps easily. Blood pressure normal. Memory good. Nothing suggestive of senile changes.

Physical Factors: None identified.

Discussion: The patient had been housekeeper and companion to an elderly woman for many years. When her employer died she was left without occupation, and felt utterly lost for lack of familiar duties, contacts, physical surroundings, etc. Her married son took her to his home, where she was treated with kindly deference and told that she was not to work any longer. This made her feel useless and forlorn, and increased her longing for the familiar presence of the old employer and all the familiar things of her former life.

The situation was reestimated for her, and it seemed best for her to find light occupation suitable to her age and particular capacities for usefulness. She made an adequate readjustment on this basis, and fully recovered.

CASE 69. FEMALE. THIRD DECADE

Persistent, Nonadjustive, Affective Reactions to Unsatisfied Major Cravings.

Symptoms: Dysmenorrhea. Irregular menstruation. Tachycardia. Arterial hypotension. Secondary anemia. Headaches. Morning lassitude. Easily fatigued. Tense, uneasy and irritable. Insomnia. Feels better as the day advances.

Physical Factors: Secondary anemia. Dysmenorrhea (no cause for this found).

Discussion: She was a shy, plain young woman who felt that it was hopeless for her ever to expect courtship and marriage. She felt lonely, restless and unsatisfied. Her sexual urges had been inhibited as debasing.

A frank discussion of the situation in terms, first, of the legitimacy of direct psychical reaction to sexual urges, and second, of the importance of defining alternative and equivalent values, brought much more favorable results than had been expected. Inhibition of direct psychical reaction to sexual urges usually effects an undue stressing of sexual-romantic values, hence the first step toward cultivating a habit of looking to nonsexual values for major satisfactions is to be sought in acquiring freedom from such inhibition.

CASE 70. FEMALE. FIFTH DECADE

Persistent, Nonadjustive, Affective Reaction to Unsatisfied Major Cravings.

Symptoms: A gripping sensation in the head and eyes. Morning lassitude. Tense, nervous, restless, "unrested" feeling. Subjective psychomotor inadequacy—is compelled to drive herself to do things. Lonely and unhappy. Constipation.

Physical Factors: None identified.

Discussion: This childless woman of forty-six lost her husband about one year before she came under observation. She had always found her major satisfactions in her husband and her home. He was a man of considerable means, but neither he nor the patient had looked beyond one another and their elaborately furnished, fussily

cared-for home in quest of current satisfactions. After his death she secluded herself in her home and tried to bring back a sense of the lost happiness by endlessly cleaning rugs, draperies, silver, furniture, etc. These were already spotless according to ordinary standards of housekeeping, and such activities only served to remind her that her husband was no longer there to share such things with her. Her longing for him seemed to increase as time passed.

After the situation was discussed with her it seemed best, in the circumstances, to advise a visit to relatives in another city. She thus passed from under observation, and the only letter received from her was noncommittal as to her progress.

CASE 71. FEMALE. FIFTH DECADE

Persistent, Nonadjustive, Affective Reactions to Inability to Satisfy Major Cravings.

Symptoms: Tachycardia. Palpitation. Precordial discomfort. Episodes of diarrhea. Headaches. Morning lassitude. Easily fatigued. Easily upset. Tense, nervous and uneasy. Irregular menstruation. Hot flashes. Positive Goetsch test, but no enlargement of thyroid and no loss of weight.

Physical Factors: Menopause. A possible hyperthyroidism which might have been part of a general menopause imbalance of endocrine functions.

Discussion: A splendid type of American matron who married young, reared a large family and knew almost no other occupation or interest but the bearing and rearing of children during a period of nearly thirty years. When her children reached an age at which they were no longer dependent upon her she found herself without occupation, apparently not needed in any important way, and at a loss to know what to do with herself. The unwillingness of some of her children to accept her guidance in matters which they felt competent to decide for themselves brought her acutely to a realization of the fact that the familiar sources of satisfaction were at an end for her. Her husband was a busy, successful man who had developed, over the years, a social life among men which occupied his leisure and satisfied him. There followed a persistent but vaguely defined longing for satisfactions to replace those which the maturation of her children rendered unobtainable. The onset

of the menopause, with a consequent accession of emotional instability, undoubtedly impaired her capacity for making adequate adjustments to the unsatisfied yearnings.

A recasting of values, and the gradual development of habits of looking to accessible interests for her daily measure of satisfaction, brought a material lessening of the somatic disturbances and a healthy trend toward equanimity.

CASE 72. FEMALE. FOURTH DECADE. (FIRST ATTACK)

Persistent, Nonadjustive, Affective Reaction to Inability to Satisfy Major Cravings.

Symptoms: Extreme morning lassitude. Easily fatigued. "Tired all the time." Tense, nervous and uneasy. Life seems dreary and empty. Easily upset. "Food seems to lie in the stomach like a leaden weight." Headache. Tired backache.

Physical Factors: Thyroidectomy one year ago.

Discussion: This young woman was in her early thirties. A little more than a year before she came under observation she was successfully operated for a severe hyperthyroidism. Her recovery was rapid, and for about ten months following the operation she was in excellent health. She then began to develop the above-mentioned symptoms, and came to me, expressing a fear that the hyperthyroidism had returned. On examination it was found that the blood pressure was normal, the pulse rate was 72 and was only slightly accelerated by test exercises; her weight was slightly above normal, and her general physical condition good. There were no physical findings suggestive of either hyperfunction or hypofunction of the thyroid.

Her nervous symptoms were easily explained. Until shortly before their first appearance she had looked forward to returning to a profitable and interesting artistic career in New York. This plan was frustrated by her sister-in-law's death, which required the patient to remain at home to assist in the care of her brother's motherless children. This meant distasteful domestic drudgery and uninteresting contacts for a highly talented young woman whose major cravings could be gratified only under the special conditions that obtained for her in the metropolis. Her sense of duty forbade her to leave home in order to do the more satisfying, financially

more profitable artistic work, but a fine obedience to it did not prevent her from going about it in a state of tense unsatisfaction.

This patient was first seen in February, 1921, and it was not difficult at once to formulate her problems in terms of what she could do and could not do about them. She quickly regained her balance, and by April was in excellent health. In July, 1921, she came to my office to report that her recovery still held, and that she was satisfied with the adjustments which she had made to the limitations imposed by her duty to her brother's children.

Case 72. (Second Attack.)

In October, 1921, the patient was thrown through the windshield of an automobile in a collision. Aside from some unimportant cuts and contusions, the only damage sustained was the shock, which precipitated a return of the hyperthyroidism symptoms. She disclosed, on examination, tachycardia, dyspnea on slight exertion, fine tremor of the fingers, episodes of diarrhea, anorexia, severe headache, marked excitability, subjective physical and mental inadequacy, lack of interest in things, discouragement, morning lassitude, uneasiness and tension, tight feeling in the throat, husky voice, a tendency to weep easily and inability to exert herself without experiencing painful fatigue. She thought that the thyroid had enlarged somewhat, but I could not make sure of this.

She was profoundly discouraged, and was typically presenting persistent, nonadjustive, affective reactions to the physical situation. Fortunately, our previous success enabled me to reassure her, and after a few weeks of physical rest she regained her usual good health.

CASE 73. FEMALE. SEVENTH DECADE

Persistent, Nonadjustive, Affective Reactions to Baffled Major Craving.

Symptoms: Tense, nervous, irritable, restless and discontented. Insomnia. Morning lassitude. Lowered threshold of emotional responsiveness.

Physical Factors: Physical fatigue. Nephritis (?).

Discussion: This patient's husband was a troublesome senile dement, and his condition required removal from the country, where she

had spent sixty-five of the sixty-seven years of her life. This meant separation from her old friends and all the other familiar sources of daily satisfaction. She was so tied to the house in town by her husband's condition that she had almost no opportunities for bringing town values into her life. The usual routine physical examination disclosed albuminuria, and the patient was requested to report to one of my colleagues for diagnosis and treatment of any renal disorder which might be detected in his laboratory. She misinterpreted this, assuming that I was not interested in her case. I was discharged.

CASE 74. MALE. FOURTH DECADE

Reaction to Sense of Inferiority. Masturbation. Persistent, Nonadjustive, Affective Reaction to Baffled Major Cravings.

Symptoms: Marked depression. Is very self-accusatory—declares that he is an incompetent "four-flusher" and an unworthy, weak-willed, cowardly person. It is a burden to meet even the simplest demands, such as shaving, bathing, dressing for the day, etc. Marked indecision. Uneasy, tense and restless. Afraid to drive his automobile through the busier streets, although he is ordinarily a fearless and skillful driver. His symptoms are most pronounced during the forenoon and least so toward evening. Is unable to concentrate sufficiently to grasp the point of simple test stories.

Physical Factors: Prolonged physical overexertion. Masturbation.

Discussion: This patient, although a married man, informed me that he had been a masturbator since early in his boyhood. His father was always more or less depressed and so handicapped by nervousness that the patient and his brothers were compelled, as boys and young men, to operate the family farm. The patient had a keen desire from early in his boyhood "not to be like father." Nevertheless, he was in his fourth depression of the manic-depressive type when he came under my observation. He was a naturally capable, enterprising person, and had accumulated considerable money. His history, the general outlines of which follow, suggested that, in addition to whatever factors there may have been contained

in his original make-up, two important determinants invariably served as the direct precipitants of his depressions:

1. *An underlying reactive attitude or "set" which he described as a sense of inferiority.* He believed this to be a consequence of his masturbation: "I am no good." "I have wrecked myself." "I have no chance against real men—I threw my chance away long ago, and I have been throwing it away all along."

2. *A vital need of daily, tangible evidences of his ability to obtain a currently adequate measure of the major satisfactions of his life.*

His underlying reactive set ("inferiority complex") was such that persistently baffling difficulties, unfamiliar situations, wholly unanticipated failure or threatened failure of a much cherished plan, unexpected, sharply belittling criticism, or any other critically discouraging combination of circumstances served to convince him in a final sort of way that he was wholly incapable of securing the major satisfactions of life. It is my opinion that his depressions were, in a behavioristic sense, reactions to such apparent blockings of the corresponding urges of his reactive equipment. A more normally constituted individual is not so easily convinced that his major urges are forever blocked because a particular enterprise may fail or because a particular person unexpectedly exposes a mean opinion of his abilities. Most of us can say, without thereby suffering unduly intense or persistent discomfort, that although it is discouraging to find that we can't write plays or do major surgery or impress our fellows with our importance, there are many pleasant alternatives to fall back upon. But *Case 74's* reactive set and his consequent need of compensatory evidences of ability to get what he most desires make impossible the normal person's relatively harmless, not very uncomfortable submissive reactions to defeat.

To resume an account of the patient's life: At twenty he left the farm and undertook to earn his way through college. The competition and other unfamiliar, baffling realities of the world beyond the confines of his father's farm frightened him, and gave him a sense of being unequal to the tasks which he had before him. His *first depression* followed, and lasted several months. The compensatory rise of spirits which terminated this attack carried him into activities which served to convince him that he was a

"hustler," and capable of making good out in the world. At thirty-one he married a hard-working, ambitious woman who had small patience with "nerves," and who held the patient to a higher estimate of his capacities than his always cautious juggling with his sense of inferiority had hitherto permitted him to make. The institution of heterosexual habits and a temporary abondonment of masturbation gave him an increase of self-confidence, and he committed himself to responsibilities to which he did not continue to feel equal. His wife was never much interested in copulation, and this tended to throw him back upon masturbation and erotic phantasies for sexual gratification. Then, at thirty-three, when the ambitious program mapped out by his wife seemed to be too much for his capacities, he had his *second depression.* The compensatory manic rise of good spirits and self-confidence which terminated this attack led him again into enterprises which finally proved to be too much for his capacity for withstanding difficulties, demands for important decisions, etc., and at thirty-six he had his *third depression.* He proceeded more cautiously after his recovery from the third attack, and gradually built up a business which was both profitable and within his capacity. He had reached his fortieth year when a turn of affairs required him either to expand his business in a very extensive way or to sell it to persons who had the capital and enterprise to do so. For about six months before he fell into his *fourth depression* he worked with frantic zeal in his efforts to handle the situation on the usual basis. At times this required him to work continuously for as much as twenty-four hours at a stretch. With increasing fatigue came flurries of panic, during which he felt convinced that he would fail in business for lack of courage and ability to measure up to the expansion of his enterprise which his wife and her people insisted must be undertaken. He would break down and weep in response to trivial hitches in his business and domestic affairs, then pull himself together and plunge into his work more strenuously than ever. Then one day he found himself wandering about the streets, too depressed, inadequate and undecided to go on. For several weeks his family endeavored to shame him into a more normal attitude toward his affairs, but they only increased his sense of defeat. Matters stood thus when he first came to my office.

During the first interview he gave me a frank account of his past life, and seemed to derive some comfort from my efforts to explain his illness. The next day he rushed into my office and in a hurried, excited manner, declared that he felt happy, and keen for work. His wife's family had descended upon him and told him that he needed, not a doctor, but courage to play the man. "Just what I needed," he exclaimed, and rushed out of the office to go about his business.

A day later he returned, dragging himself dejectedly from the waiting room to the consulting room, deeply depressed and so retarded that considerable intervals of silence elapsed between my questions and his responses to them. He was directed to instruct his wife to sell the business, and a regime was outlined which included long hours in bed, regular, generous feeding and an acceptance of himself as ill. The stupidly unsympathetic attitude of his wife and her family was a serious drawback, hence he was advised to keep out of their way as much as possible. He finally gained a fair degree of insight into the reactive mechanisms responsible for his depressions, and recovered.

A patient of this type need not have recurrent depressions if he can be induced to keep in touch with a physician who can keep him reminded of his tendency to accept unexpected difficulties, criticisms, etc., as evidences of his inability to lead a satisfying, dignified life. An effective understanding of one's own reactive mechanisms finally brings with it a sense of self-sufficiency which renders depressive reactions impossible.

CASE 75. MALE. SIXTH DECADE

Reaction to Inferiority. Persistent, Nonadjustive, Affective Reaction to Baffled Major Cravings.

Symptoms: Constant depression, which is most marked during the early forenoon. Feels unequal to even trivial mental and physical demands. Lack of initiative. Indecision. Accuses himself of having bluffed his way through life. Thinks that his underlying incompetency is about to become apparent to the world. Feels that "the salt hath lost its savor," and that life stretches ahead as a bleak, empty thing.

Physical Factors: None identified.

Discussion: The patient began life as a country boy without capital and amassed a comfortable fortune. He never lost his country-boy feeling of inferiority to the smartly dressed, self-assured city man of affairs. His industry and ability enabled him to succeed, and he was deferred to by his business associates, *but he clung to his country connections for his social life throughout his career.* He came under observation while well advanced in his third depression. Each of these depressions was precipitated by unexpectedly arising obstacles in the way of carrying ambitious plans to fruition. Of course he had surmounted many difficulties in his business career, but three times in the course of his business life he encountered insurmountable obstacles, and each time he reacted thereto by developing a depression of the manic-depressive type. An accession of an unnatural degree of self-confidence and good spirits terminated each of the first two depressions. He proved to be a very satisfactory patient, and was getting out of his third depression when the survey ended.

CASE 76. MALE. SIXTH DECADE

Inferiority Reactions. Persistent, Nonadjustive, Affective Reaction to Baffled Major Cravings.

Symptoms: The patient sits about, depressed, unable to drive himself to his usual place of occupation, bewailing his poverty and his unworthiness, and longing for death. Talks about killing himself and his children.

Physical Factors: None.

Discussion: This patient came from a family in which it was taken for granted that each of its members was destined to occupy positions of importance in the world. From boyhood he lacked the capacity for directing the activities of others. He was industrious, quick to learn any new duty assigned to him, and the kind of person whom one would choose for positions of responsibility. But from the time he was a boy of twenty he always failed any person who put him in authority over other men. Although I had exceptional opportunities for studying this case and had known him all my life, no explanation of his easily activated sense of inferiority

was ever disclosed except his inability to get along when not currently under the direction of a foreman or a person in an equivalent position. He seemed to fall back upon sexual satisfactions for the more profitable ones which his lack of executive ability denied him.

He married young, was given a desirable position which did not seem to carry with it responsibilities beyond his age and natural capacities, and for about one year seemed to prosper. Then he gave up this position and became a laborer under the direction of a foreman. His wife had eclampsia when her first child was born, hence he was advised to avoid making her pregnant again. In spite of an apparently honest desire to protect his wife against his own sexuality she had seven more pregnancies, and finally died in childbirth. He was then thirty-five, and for several years he went along quietly, working as a day laborer and supporting his children. At forty he married a young girl who lost her capacity for administering the household after having borne three children in close succession. This required more money for living expenses, and he accepted a position as foreman. He lost his balance almost as soon as he entered upon his new responsibilities, and developed a depression which lasted about two years. It terminated in a mild manic rise, after which he returned to work as a day laborer. In spite of his handicaps he was able to save a little money as time passed, and about a year before he came under observation he made a substantial payment on a home. Then his second wife died, and he was confronted with expenses which he had difficulty in meeting out of his pay. His employers had long urged him to accept a foremanship at better pay, and he now decided to comply with their request. His usual inability to direct the efforts of other men soon manifested itself to him, and he felt that there was no hope of ever being able to obtain the things which he required for his contentment. His second depression, which seems to have reached its fastigium when he first came under my observation, now developed. Before it was possible to get hold of him therapeutically he informed the family that he had tried, unsuccessfully, to summon courage to kill his children and himself in the night. There was nothing to do but to send him to the state hospital, where he recovered within three months after his commitment.

CASE 77. FEMALE. THIRD DECADE

Indirect Reaction to Inhibited Sexual Urges. Nonadjustive Reactions to Inferiority.

Symptoms: Very tense. Subject to severe, prolonged headaches. Subjective attention disorder and inability to remember names of people. When two persons quarrel in her presence she feels that she is somehow the culprit, even though she may not be in any way involved in the quarrel. Weeps in response to insufficient causes. Seriously lacking in self-confidence and ability to carry out any of her well formulated plans. While at a house party recently, where she was treated with deference, she felt better than she had previously felt for years, and experienced none of her usual symptoms of nervousness.

Physical Factors: None identified.

Discussion: A bright, attractive young woman whose history cannot be presented here in adequate detail without risk of disclosing her identity. Her surface history was misleading: she was able to define a very sensible attitude toward her personal sex problems, but it was easily apparent that this was merely a parrot-like repetition of what she had been told by college Y. W. C. A. lecturers. What she said reflected academically held intellectual convictions and not an effective attitude. Her intelligence and intellectual honesty enabled me to obtain a most interesting history, and it is to be regretted that only fragments can be given here:

1. When she was about nine, while walking one dark night in a lonely part of town, she was seized by "a huge, repulsive, drunken man with horrid yellow teeth" and subjected to an erotic embrace. She freed herself before she was violated, but for a long time afterward she had jumbled, fascinating, terrifying dreams in which her assailant figured prominently. Her upbringing was of a kind to induce prompt inhibition of direct psychical reactions to normal sexual urges. The above-described sexual assault seems to have accentuated both the force of her sexual urges and her sense of their loathsome quality. As is so typical of young women who habitually inhibit direct psychical responsiveness to their heterosexual urges, this patient had a restless sense of unsatisfaction which caused her to make frequent changes of plans and to depend

upon the novelty of any plan for its "kick." The tendency to severe headaches in these cases may quite possibly be due, as Dr. Josephine Jackson[8] suggests, to the same inhibitive mechanisms that are responsible for the painful sense of unsatisfaction. It was not clear that her background sense of inferiority was in part determined by a sense of personal deficiency growing out of her morbid sexual reactive mechanisms, but my notes include reference to this as a possibility.

2. Her mother was the breadwinner of the family, the father being a physical invalid. The mother had a habit of dominating everybody, and made her family feel that they were a weak, inefficient lot who required a lot of bossing and thwarting. The patient was made to feel that she was completely overshadowed by her capable mother. The father figures in the history as kindly, gentle and sympathetic, but unimportant in everybody's scheme of things excepting the patient's. The father and the patient were inferior persons in the household, and felt apologetic toward the one to whom they owed all the good things of life. Jealous reactions were not in evidence, either directly or indirectly, and I could find no clues to a mother-hatred. The patient simply assumed that she was an inferior person, and reacted directly to this assumption.

A better understanding of her habits of indirect responsiveness to her sexual urges and a more normal evaluation of the sexual instinct were easily obtained. The inferiority situation was more difficult to deal with, but she understood that she had need of demonstrating, by concrete achievement, my thesis that she was a more important person than she had hitherto assumed. There was the usual initial improvement, and subsequent correspondence reported further progress.

CASE 78. FEMALE. SIXTH DECADE

Persistent, Nonadjustive, Affective Reaction to (1) Social Inferiority and (2) Failure to Have Physical Disabilities Recognized as Adequate Ground for Status as Physically Impaired Person.

Symptoms: Cold extremities. Uneasy discomfort in epigastrium and various parts of abdomen. Nausea at times. Flatulency. Constipation. Pulling sensation in right hypochondrium. Right leg

aches and trembles. Throat "feels weak" and any worry or shock "goes to her throat." Eyes feel weak. Inconstant joint pains. Tired backache. Fugacious paresthesias. Easily fatigued. Always tired. Morning lassitude. Nervous, tense and uneasy.

Physical Factors: Chronic colitis. Possible chronic cholecystitis.

Discussion: This patient, a farmer's wife, gave a history which is familiarly encountered in rural districts. Since her marriage she had been unequal to the drudgery which fell to her lot. In her part of the country a farmer's wife who shirks the traditional duties of her class loses self-respect as well as the respect of her family and neighbors. If her inability to meet the demands of farm life cannot be credited to tangible bodily ailments, such a woman is apt to develop, in time, a host of hypochondriacal complaints, and to make these the central theme of all conversation. This instinctive exaggeration of an actual but not grossly apparent physical insufficiency usually discloses itself after the birth of the first child, and becomes increasingly apparent as time passes. The family usually suspects that the patient's complainings are not wholly justified by any disorder which may be present, and the patient, sensing this, all the more frantically asserts the reality of her suffering and incapacity. Such a patient is typically on the defensive as to the legitimacy of her self-established status as a semi-invalid. This is *Case 78's* history in particular, and it closely parallels that of many farmers' wives of whom I have personal knowledge.

This patient was not only reacting persistently and nonadjustively to her inability to acquire the status of a semi-invalid, but to an unsatisfactory social situation as well. The family resources and morals were such as to entitle them to consideration as important persons in their neighborhood, but their ancestral background was that of a class which was rated as "trash" in pioneer days. The men of this class were lazy, shiftless, drunken, often thievish and always incapable of feeding and clothing their women and children without subsidies from the respectable class. When, as happened in *Case 78's* family, one of the "trash" developed thrifty and industrious habits and became an important landowner, his social superiors were apt to attribute his rise in the world to trickery, miserliness, etc. *Case 78* was, it seemed to me, a worthy person, but she and her family were made to feel their inferiority at

every turn. She was chronically hurt and aggrieved by petty reminders of the neighborhood's attitude, which was, "You are, after all, mere trash."

CASE 79. MALE. FIFTH DECADE

Inferiority Reactions. Persistent, Nonadjustive, Affective Reaction to Baffled Major Craving.

Symptoms: Feels as if a band were drawn across his forehead. Head feels queer—muddled—not right. Morning lassitude. Feels "draggy," tense and nervous. Indecision, lack of initiative. Always longing for return of days which ended with father's death. Anorexia. Burning sensation in stomach.

Physical Factors: None identified.

Discussion: When he was about twenty he and his father went in debt for a run-down farm, and after years of hard work paid for it and made it a valuable property. They were congenial to an unusual degree, and very dependent on one another for advice, encouragement and companionship. Neither would take the initiative in such matters as setting a date for sowing and reaping, or buying or selling things without conferring with the other. It did not seem to be a case of one-sided dependence—they seemed to complement one another in an unusual sort of way. The mother was a narrow-minded, selfish, querulous person whom son and father appeased as best they could and avoided as much as possible.

About six months before the patient came under observation his father died, after which he was so lonely that he sold the farm and moved to town. The above-described symptoms were already somewhat in evidence before he left the farm, and they gradually increased after that until they had reached their maximum intensity when I first saw him. He soon fell into a habit of waylaying me on the street, there to unburden himself of his woes (he was reluctant to come to the office, lest he would be charged a fee). His central themes were his homesickness for the farm and his father, and his inability to carry out a plan to buy a farm in partnership with some man who could work with him as he and his father had worked together. Finally, I invited him to talk matters over more systematically, without cost to him. Although he could well afford

to pay a fee, this arrangement pleased him. His acceptance was not wholly flattering: "Well it won't cost me anything, anyhow."

His sexual life, according to his account, was not especially significant. He had masturbated as a boy, and in later years used prostitutes and unvirtuous country girls whenever his sexual desires oppressed him. He hadn't married because it had not been possible to find one who seemed likely to earn her keep. "It was cheaper to pay a girl a little something now and then for a little fun."

The behavioristic mechanisms involved in his infrarational, nonadjustive habits of response to the need of a person like his father to complement him and to his baffled major cravings were explained to him. Like so many modern farmers, he had a very fair working knowledge of applied biology, hence the ease with which he grasped principles which, I explained to him, were derived from studies of baffled animals. Two or three free sessions started favorable adjustive trends, and he made a good recovery in the end.

CASE 80. MALE. THIRD DECADE

Reactions to Inferiority. Persistent, Nonadjustive, Affective Reaction to Baffled Major Cravings.

Symptoms: Morning lassitude. Tense. Restless. Makes many ambitious plans but lacks sufficient confidence in himself to undertake their execution. Longs for stroke of luck which will give him economic independence and freedom to pursue rather hazily defined literary career. Has old mitral insufficiency which probably dates back to early childhood.

Discussion: The patient was too frail as a boy to enter into the rougher games of his associates, and soon learned to fall back upon day-dreams, story-books and intellectual pretensions as substitutes for the usual satisfactions of boyhood. He grew to manhood without having prepared himself to gain a livelihood. In college he drank a good deal, and tried, unsuccessfully, to acquire the status of a fast, worldly-wise sport. After college he lived at home and had fits of ambition which led him to seek clerical positions which might lead to advancement, but the monotony and poor pay always discouraged him, and he decided that financial ambitions were sordid. His unsuccessful efforts to have his short stories and plays accepted alternately depressed him and gave him a contempt

for a public which enjoyed only meretricious values in fiction and drama. An unsuccessful love affair likewise depressed him and led to an estimate of himself as a tragic and superior person.

His impatience with any effort to help him to a better understanding of himself, and his arrogant assumption of superior wisdom and ability were inconsistent with the fact that he was nearing his thirtieth year and still dependent on his father for food, shelter and raiment. This attitude was clearly defensive, and reflected a largely nonconscious adjustive movement toward compensating for a not very successfully inhibited sense of inferiority. Some degree of insight was finally attained, and he accepted a position which was within his rather limited capacity for useful work.

CASE 81. FEMALE. FOURTH DECADE

Persistent, Nonadjustive, Affective Reaction to (1) Sense of Insufficiency, (2) Baffled Major Cravings and (3) Impairment of Advantage by Personal Agencies.

Symptoms: Extreme morning lassitude. Always feels painfully tired. Nervous, depressed. Weeps easily. Feels intolerable longing for satisfactions which are essential features of her brothers' and sisters' lives. "If anything unpleasant is said I shiver and freeze." Drawn feeling in the back of the neck. Constipation. Pulse persistently 60. Systolic pressure 105.

Physical Factors: Bradycardia. Arterial hypotension.

Discussion: The patient's capacity for enduring either mental or physical strain was always subnormal. While in high school she was praised for her studious habits, and under this encouragement worked immoderately to lead her class. When nervous symptoms suggestive of undue fatigue appeared the family physician held her to her tasks on the assumption that she was neurasthenic. She would weep with fatigue, but kept going. While still tired from the excessively hard work of her last year in high school she married, and within a few years bore three children. She had much strain and anxiety on account of their repeated illnesses. Her husband grew intolerant of her increasing listlessness and complaints of fatigue, and rebuked her constantly for her lack of fortitude. He came from the laboring classes and she from a social and

economic level at which women expect, as a matter of course, to hire persons to do the washing, scrubbing and similar laborious household things. There gradually developed a guilty feeling because she was unable to measure up to his standard of housewifely industry and endurance.

About two years before she came under observation she grew very thin and showed signs of marked physical exhaustion. She would go to pieces and weep uncontrollably whenever her children disobeyed her or her husband scolded her. She was unable to get warm, shivered in rooms which were too warm for other members of the family, and finally had to be put to bed. A few weeks of rest in bed brought marked improvement, after which she resumed her usual duties. There now came an intolerable longing for the more colorful things which were an essential part of her brothers' and sisters' lives. Hitherto she had regarded such longings as disloyal to her husband. His industry and their frugality had enabled them to pay for a home in a pleasant part of the city, and they had a comfortable sum in the savings bank. She longed to go to the moving pictures, to dances and to do other pleasant things which even the wives of unskilled laborers do. Her husband was a well-paid mechanic, and could have afforded such pleasures. The patient also longed for a piano or, lacking that, even a phonograph of some kind. Her husband regarded such longings as evidences of a desire to live beyond their means, and vetoed their gratification. He began to complain that the people who lived on their street regarded him as the patient's inferior socially, and threatened to sell their home and move the family to the factory district where the foreigners and the shiftless class of American laborers live. The prospect of bringing her children up in such a neighborhood caused her great unhappiness. He never carried out his threat, but held it over her.

The patient felt, all the while, that she had somehow failed her husband, and she worked beyond her strength to regain his respect and affection. Finally, the industrial depression of 1921 required his employer to apportion the work so that each man had only two days occupation each week. Her husband spent the four idle days at home, restless, irritable and worried lest he might be

compelled to encroach upon his savings. She could not conceal from him her nervousness and lack of endurance, and he rebuked her by ignoring her for a fortnight at a time. Matters stood thus when I first saw her.

There was nothing in the patient's sexual life to suggest the presence of pathogenic maladjustments in that direction, and it was clear that she was persistently responding affectively and without adjustment to the husband's unfair, disagreeable treatment; to her own unsatisfied longings for a few simple pleasures, and to a depressing sense of personal insufficiency. Her first account of her husband was a misleading recital of his virtues, but after her misguided sense of loyalty to him had been overcome she broke down and told her story.

The husband proved to be a very superior type of mechanic, but a hard taskmaster to himself as well as to his family. He did not believe in people coddling themselves, and assumed that his own great physical endurance and capacity for self-punishment were shared by his wife and children. He readily sanctioned his wife's removal to the country, and displayed a proper concern for her welfare when he was assured that she was apt to develop a serious illness. She was given a modified rest-cure in the country for a month. At the end of the first two weeks her systolic pressure had risen from 105 to 120 and her pulse rate from 60 to 72. Her nervous symptoms disappeared, and she returned home with a much more sensible outlook on life. For a while matters went well at home, but the husband soon fell back into his former critical, disapproving attitude, and began to have long periods of sulky unresponsiveness to her. All the former symptoms, including the bradycardia and arterial hypotension returned, and it was impossible to finance another trip to the country.

The slowly and painfully effected acquisition of a new set of reactive habits toward which the patient was tending when it became apparent to her that infrarational habits of responsiveness to her problems were her undoing, had not had time to become a fixed part of her reactive equipment when the survey terminated. Her progress while she was under observation was satisfactory, but letters received from her since then indicate a tendency to fall back upon habits of nonadjustive responsiveness to her difficulties.

CASE 82. FEMALE. FIFTH DECADE

Persistent, Nonadjustive, Affective Reactions to Unsatisfied Major Cravings and Treatment as a Socially Inferior Person.

Symptoms: Irregular menstruation. Hot flashes. Palpitation. Tachycardia. Slight enlargement of thyroid. Easily upset. Easily fatigued. Chronic local neuritides. Chronic spastic colitis. Headache. Tired backache. Scalp paresthesia. Marked morning lassitude. Tense, nervous, restless and discontented, and haunted by a sense of unsatisfied yearnings.

Discussion: This patient is an alert, ambitious woman with strong gregarious cravings, but she is compelled by economic conditions and her own sense of duty to lead the lonely, colorless life of a backwoods farmer's wife. Conditions which cannot be discussed here place her at a serious social disadvantage among the country people with whom she is thrown in contact on market days, holidays, etc. Her husband has always been kindly, sympathetic and as successful as the limited nature of his opportunities have permitted. Until she came under observation she was, from her girlhood, always on the defensive as to her right to be dealt with on terms of equality by her small world, and this served to increase her difficulty in obtaining the satisfactions which she most craved. During her girlhood she impressed an informant as a pathetically wistful figure at country picnics, where her obvious hunger for friendly contacts with other young people only excited the derision of the more fortunate ones.

When she came under my observation during the survey I found that the menopause and an attendant mild hyperthyroidism had only served to accentuate nervous symptoms which had long interfered with her comfort and efficiency. Her confidence was easily gained, after which she gave an unsolicited account of restless cravings for satisfactions which the days did not yield, and which, it seemed to me, obviously interfered with the periodic recuperative lowerings of striped-muscle tonus on which restful sleep is dependent. It is a signficant fact that patients who habitually react to the unsatisfaction of major cravings without terminative adjustment uniformly complain of marked morning lassitude. The organism, in such cases, seems to be chronically in a state of preparedness

to engage in the activities that would be elicited by opportunities to satisfy major cravings if such opportunities were forthcoming.

The patient improved with insight into the mechanisms responsible for her nervousness, and with purposeful planning for future satisfaction.

CASE 83. MALE. SIXTH DECADE

Persistent, Nonadjustive, Affective Reaction to (1) Sense of Personal Insufficiency, (2) Baffled Major Cravings and (3) Impairment of Advantage by Impersonal Agencies.

Symptoms: Essentially those of the depressive phase or syndrome of a manic-depressive psychosis. Constant depression, which is worse in the morning. Marked morning lassitude. Feels inadequate, and lacks initiative. Even trivial duties, such as dressing for the day, shaving, etc., seem burdensome. Worries constantly about financial matters, but can think of no way out of his difficulties—every outlet seems closed. Regards himself as an all-round failure. Talks of suicide. Constipated.

Physical Factors: None identified.

Discussion: This patient, an oil driller of fifty-four, moved to the city and assumed obligations which he found difficulty in meeting when the depression of crude oil prices deprived him of expected opportunities as an independent driller. His children, whom he had educated and who were glad to help him out, were obliged to meet current living expenses. This arrangement was regarded by them as merely a means of tiding over an emergency, but the patient found his dependence on them irksome and humiliating. He had habitually assumed that his ability and reputation as a driller and his popularity with independent producers insured him at least a livelihood. The unusual conditions which prevailed in the local oil fields in 1921 resulted in a long period of enforced idleness for him, which he attributed to the fact that a series of unpreventable accidents had retarded the drilling in which he was last engaged.

He gave a history of a previous depression which occurred when he was thirty-nine, and lasted about one year. The present depression had begun about three months before he came under observation, and seemed to be approaching its fastigium. No signifi-

cant sexual adjustive dysfunctions were apparent in his history, although he was ready to accuse himself of all sorts of shortcomings. He was finally induced to cooperate with a more rational estimate of his present difficulties, and made the usual recovery, with a slight postdepressive exhilarative rise.

CASE 84. MALE. THIRD DECADE

Indirect Reaction to Inferiority (Compensatory Alcoholism).

Symptoms: Following a period of mild depression, seclusiveness, lack of self-confidence and lack of initiative the patient became uncontrollably alcoholic. He had been drinking excessively for about one year when he came under observation.

Physical Factors: None excepting such toxic impairments as the alcohol may have induced.

Discussion: After many vicissitudes, and months of complete lack of success, I was able to catch this patient during a period of depressive reaction to the behavioristic factors which he was then willing to disclose to me. He stated that at about sixteen he was taught masturbation by older boys, and that he had indulged in this practice ever since. Not long after he began to masturbate he developed an underlying sense of inferiority which, according to his unsolicited and undirected account of the matter, had ever afterward been the chief determinant of much lawless, often vicious conduct and, finally, of his alcoholism. He was always half persuaded that even strangers who passed him on the street would "spot" him as a masturbator, and that his effeminate good looks would prevent people from taking his masculinity seriously. Tough behavior gave him a compensatory sense of power and rugged masculinity, and this was enormously increased by alcoholic stimulation. The patient disappeared while intoxicated.

CASE 85. FEMALE. FOURTH DECADE

Compensatory (Manic) Reaction to Sense of Inferiority.

Symptoms: Restless, excited, expansive, full of energy and at times noisy and inclined to be violent. Very distractible. Very loquacious with so-called "orderly flight of ideas."

Physical Factors: Three separate operations during the past two years, viz., drainage of gall bladder, appendectomy and removal of pus tubes and one ovary.

Discussion: Before her marriage the patient was first a prostitute, then proprietress of a house of prostitution. She saved a considerable sum of money during this phase of her life. After her marriage she longed for the outward evidences of respectability, and to this end purchased a pleasant home in a good section of the city, set her husband up in business, and sought to obtain social recognition from persons whose personal histories were less lurid than her own. Her three costly operations and the husband's grossly incompetent management of the new business deprived her of the only claim that she felt that she had for recognition, viz., her money. There was a brief period of depression, during which she bewailed her evil past, her present financial difficulties and her postoperative discomforts; but this soon changed to a typically compensatory manic reaction, with the prostitute's exaggerated sense of the value of her personal charms. Her history led us to suspect that we were dealing with a paretic outburst, but the blood and spinal fluid findings were wholly negative, and there was entire absence of neurologic signs of paresis.

CASE 86. MALE. FIFTH DECADE

Compensatory Reaction to Inferiority.

Symptoms: A keen, able business man who has episodes of mystical exaltation during which he talks incessantly, boasts of supernatural powers, is intensely religious in a vague, mystical way and plans religious and educational schemes on a colossal scale. There is no misconduct during these attacks, very little motor excess and a fair degree of docility. Between attacks he shows no insight as to these episodes, but is otherwise apparently normal. These attacks have been occurring at intervals of from two months to two years during the past six years, and each attack lasts from two to three weeks. They are not followed by depression.

Physical Factors: None identified. Syphilis excluded. No neurologic findings.

Discussion: The patient is a musical, emotional, artistic man who has shown business ability, but whose enterprises are on a small

scale. One brother died a schizophrenic. His family is regarded as a gifted, erratic one. He is the least successful member of his family, and has always been patronized by his more successful brothers. His wife informed me that the patient always felt on the defensive as to his own importance, and fearful lest he be regarded as inferior. The patient's own ramblings were in the form of boastful assertions of his omnipotence. His wife has the impression that any reminder of his inferiority to the brothers is apt to precipitate an attack. He was inaccessible to questions which might have revealed any nonconscious determinants of his psychosis other than the underlying sense of inferiority. His sexual life, as described by his wife, seemed to be quite normal. One may fairly assume that the most proximate determinant of his attacks is to be sought in his compensatory reaction to inferiority, but a psychosis of this kind must be expected to have a far more complex determination than this would imply, and may include as yet unguessed somatic factors.

CASE 87. FEMALE. THIRD DECADE

Nonadjustive Reaction to Social Inferiority and General Personal Inferiority.

Symptoms: Tachycardia. Dyspnea. Sinus arhythmia. Arterial hypotension. Indigestion. Visceral uneasiness. Amenorrhea. Backache. Dull headache. Sick headaches. Morning lassitude. Easily fatigued. Marked somnolence. On holidays and Sundays and always in the evening, when the patient's husband was at home, she was invariably bright, alert, physically comfortable and not in the least inclined to be somnolent.

Physical Factors: Some form of endocrinopathy, syphilis, cryptic infection, myocardial charges, pregnancy, masturbation and anemia were considered as possible determinants of the above symptoms, but in the end none of these possible factors could be identified.

Discussion: A slack, shifty, thievish young woman. The patient had fallen in love with and married an honest workingman who was highly regarded by his fellows and their wives. His friends were of the class who take themselves seriously as respectable, virtuous, honest, home-owning people. The patient was quickly found out by the women of her husband's social world, and she unresist-

ingly surrendered to their classification of her as an unworthy slut whose husband had married beneath him. He seems to have been wholly ignorant of her shortcomings and of the neighbors' mean opinion of her. His devotion to her seemed to be the only thing in life that she prized. She clung to him when he was at home and hid herself from everybody at all other times. His work kept him away from home from early in the morning until evening mealtime, and she spent the most of the period of his absence in a sort of mental and physical torpor. She would draw all the shades, lock all the doors and doze in the darkened house all day long. It was her desire to shut the world out as effectively as possible.

The husband had, apparently, a satisfying measure of social life with his fellow laborers during the day's work. At any rate, she had no difficulty in inducing him to forego evening and Sunday visiting with other families, and he knew her only as a cheerful, intensely affectionate wife who preferred to remain at home because she was not well. She paid the first visit to my office with great reluctance, but after that came willingly enough. Part of the above history was obtained from her and part from another, equally interesting patient who could be trusted to supply dependable information.

The patient discussed her sexual life without reluctance. Before marriage she masturbated, but not excessively. Her engagement kindled strong heterosexual desires, and as soon as marriage made copulation permissible she had no further inclination to masturbate. Her responses to his advances were normal, according to her account. If he wished merely to demonstrate his affection for her she was satisfied with that, and if he displayed sexual excitement she followed his lead in a quite normal way. In short, her reaction to her treatment as an inferior person and to her own sense of inferiority seemed to involve an almost complete withdrawal from all phases of reality excepting that which was contained in her matehood.

CASE 88. FEMALE. SIXTH DECADE

Conditioned Fear-Reactions.

Symptoms: Whenever this patient left her house by the front door and went out into the street she felt as if some dreadful thing

were about to happen. If she ventured too far from her house a fear of imminent death was apt to overtake her. She would feel herself "going down, down, down," would break into a cold sweat and, if unsupported, would sink to the ground in a paralysis of fear. She could walk out of the back door and into her back yard without precipitating such attacks. At times, while indoors, she would have milder anxiety attacks with fear of death, cold sweats and weakness of the lower extremities. Her current symptoms were gastric distress with nausea, constipation, paresthesia of the scalp, tired ache across the hips and in the lumbar region, vague discomfort over the heart, and cold extremities. There was a purely subjective lateropulsion (she felt that she was falling to the left, but actually walked normally indoors) whenever she was tired or excited. At times when she tried to talk she could only weep.

Discussion: The patient stated that between thirty-six and forty-eight she had irregular menstruation with hot flashes, but without serious nervousness. The present trouble began when she was fifty-two (three years before she came under observation) directly after a motor accident. She and her daughter and her daughter's children were thrown out of the car in which they were riding when they collided with a larger car. For a moment she thought that she was the only one who had escaped death. Although none of the party were seriously injured, she never regained her balance after the accident.

It was evident that the accident had somehow resulted in her becoming conditioned to react to street stimuli as to fear-inciting stimuli. Whenever she was encouraged to recall the details of the accident and its total setting she complained that the events which immediately preceded and followed the accident, as well as the accident itself, came back in a confused jumble, and in the form of an active, horrid nightmare. A careful exploration of her past history, past and present family and social settings, etc., failed to elicit any clues not contained in the mere fact that when her car was smashed into by the other car she had an agonizing sense of seeing her beloved daughter and grandchildren slain before her eyes, and that she had shut her eyes "to shut it out of her mind" before the swiftly moving events of the accident had completely unfolded themselves.

It is possible that such inhibitions of full psychical reaction to terrifying experiences leave the organism in a state of preparedness to complete the originally initiated psychical reaction, and that in consequence the patient becomes conditioned at once to react to the future incidence of any stimulus resembling any of the intrinsically harmless phases of the total situation or setting in which the fear-inciting stimuli were contained. Thus our patient, whose accident occurred in a street, could not encounter any stimulus derived from walking along a street without responding thereto as to the primary fear-inciting stimuli. The pounding of her own heart, which she must have sensed at some phase of the accident, would sometimes throw her into an anxiety attack while she was quietly reading in her own home. She was encouraged to telephone to me at such times, and whenever it was possible I visited her directly. I usually found that only a sudden awareness of her own heart beats seemed to have precipitated the attack.

It was very difficult to give this patient an effective understanding of her condition, but I found that she was helped by riding with me into the country after my visits had ceased to be of any benefit to her. There had been a considerable mitigation of her illness when the survey terminated, and a later report from her disclosed the fact that she was able to go into the street with a fair degree of self-confidence.

CASE 89. MALE. FIFTH DECADE

Conditioned Fear-Reactions.

Symptoms: Disappearance of erection at critical moment.

Physical Factors: None identified.

Discussion: A robust, physically sound man with a good sexual history until the present difficulty began a few months before the patient came under observation. He had returned home at the end of a day of unusually strenuous physical activity, mildly overstimulated with alcohol, pleased with the day's work and in good spirits. At bedtime the stimulating effects of the alcohol had faded, and he felt his fatigue. Nevertheless, the sexual relation seemed to be in order as a kind of celebration of the day's successes, in which both he and his jolly, good-natured wife were

rejoicing. He recalls that he was very tired, and not much stimulated sexually; and that his erection was not a vigorous one. It faded when he was about to copulate with her, whereupon she teased him a good deal, asserting that he was "no good," that he had "lost his manhood," etc. He was accustomed to such friendly bantering, but never before had he had the least difficulty in proving his potency to her entire satisfaction. This time he "felt a little sheepish, and worried in spite of himself," lest the expected copulation would be impossible because his erection would not return. A few nights later, when he was about to copulate with his wife, she referred to his previous failure and banteringly suggested that he was "no good," whereupon he again lost his erection. This was accepted by both of them as a great joke, and ever afterward, whenever copulation was imminent, his wife would laugh and make the usual joke. He soon found that always at the critical moment he was overtaken by a lively fear that his erection might fade and, of course, it did fade. The whole situation seemed to him to be ridiculous, but he would go to bed with strong sexual feelings and a vigorous erection, only to experience the now habitually recurring fear of a failing erection, with disastrous consequences.

He was given some tincture of nux vomica and told to refrain from attempts at copulation for three weeks. On his return at the end of this period he reported, to my disappointment, that he had been obedient to my orders. Another period of rigid continence was prescribed, but before the time was up he returned, reporting that he had successfully "broken over" and inquiring, rather anxiously, if his disobedience would interfere with his cure. He was told that the cure was contained in the disobedience, and the principle of the conditioned reaction was explained to him. He was of the jovial, competent, "extraversive" type for whom demonstration had best precede explanation.

CASE 90. MALE. FIFTH DECADE

Conditioned Fear-Reactions.

Symptoms: At twenty-four, while sitting in one of the front pews of a church, he happened to glance over his shoulder and observe that the aisle was blocked by ushers and incoming mem-

bers. He suddenly felt dizzy and ill, and fell into a terrible panic. He felt that if he could not at once escape from the church he would go mad with fear, and rave like a madman. After that, whenever he found himself in any situation where quick, unimpeded exit from an enclosure was not apparent, he would have one of these attacks. He could enter a moving picture theater while the lights were dimmed and leave it before they were turned up, but if he miscalculated the movements of the crowd, and saw the aisles blocked by incoming and outgoing people he would have an attack. Taking communion at church was a great hardship because it involved blocking of all easy exits from the place where this rite is performed. Matters were brought to a climax when he was called upon to preside at a labor convention, where his duties required him to face an audience which seemed to block his exit. He was compelled to seek an excuse for leaving the auditorium, fearing complete loss of self-control.

Discussion: The patient had no explanation to offer for his claustrophobia, and none appeared in a minutely detailed account of his life. He seemed to be on good terms with his wife, who verified his account of their sexual and other relations to one another. He was instructed to spend a half hour lying on a couch in a dimly lighted room on any evening when no guests were expected and after the children were settled for the night. His wife, whose presence was always reassuring to him, was to hold his hand while he was to practice nonresistance to any flow of reminiscences which might be initiated by a contemplation of his claustrophobic panics. He was instructed to avoid all efforts to explain his panics, and all conscious direction of his successive awareness.

On my return to my office a few days later, after an absence, the patient called me on the telephone and asked for an immediate appointment, and soon appeared in a state of enthusiastic excitement, announcing that he was cured. He told the following story:

At the first session on the couch there came into his mind the memory of an event which occurred when he was about eight years old. He made his first visit to the country, where he spent several days with an uncle, who was a farmer. One evening, while his aunt and uncle were visiting a neighbor, the farm hand in whose care the patient was left was visited by another farm hand from a near-by place. The two men disappeared with their guns, a lan-

tern and a 'coon hound. After an hour or so they returned, carrying a live animal (probably a racoon or an oppossum) and were greatly amused to find that the little boy from town was afraid of it. They chased him into an upstairs bedroom, and threw the animal after him. Then they locked him in the room with the live wild animal. The patient was utterly terrified, and made frantic but ineffectual efforts to escape from the room. His shrieks of terror finally alarmed the farm hands, and they released him. He was ill for several days afterward, and the uncle's employee was discharged for his cruelty.

The patient stated that as the memory of this episode came into his consciousness he experienced a lively emotion of fear. He was convinced that it had conditioned him to react to blocked-exit enclosures as to the locked-in-the-room situation which he had so fortunately recalled. The circumstance that the conditioned fear reactions (claustrophobia in this case) first appeared sixteen years after the experience at his uncle's farm, remained unexplained, but he was too sure of his recovery and too uninterested in this phase of the problem to accede to my request that he return for further examination.

CASE 91. MALE. THIRD DECADE

Conditioned Fear-Reactions.

Symptoms: Tachycardia. Palpitation. Precordial distress. Constant, painful air-hunger. Sniffing, sighing and facial distortion suggestive of person gasping for breath. Tense, restless and unable to sit still—fidgets, starts up, sits down, twists in chair, etc. Has lost weight, and is easily fatigued. Has attacks during which he is overwhelmed by fear, and runs until he is exhausted in an effort to escape a nameless terror.

Physical Factors: Hyperthyroidism.

Discussion: This patient, a very suggestible, imaginative young man, had never witnessed a convulsion until one day, while walking along the road with his brother-in-law, he saw his companion fall and struggle in a fit. He had ever afterward only a hazy, broken, nightmarish memory of the terrifying event. He had not known that his brother-in-law was an epileptic, and the very word had previously had only a very vague connotation for him. A few

hours after the episode of the fit, while he was sitting alone, the thought came to him that any otherwise healthy person might fall and struggle in a fit. This thought (according to his naïve account) so terrified him that he ran until he fell exhausted. These wild flights were of frequent occurrence thereafter, and the air-hunger was constantly present.

He was referred to me for diagnosis, and on examination it was disclosed that a fit seemed to him to be a horrible kind of asphyxia, and that whenever his attention was attracted to his own respiratory sensations and movements a wave of fear overtook him. This fear was usually nameless, and he thought that his symptoms must be due to an affection of his heart. It was only when his respiration reminded him of the brother-in-law episode that he experienced the uncontrollable impulses to flee.

The patient was happily married, according to his own account, and his sexual life seemed to be quite normal. Careful explorations of his personal history, studies of his dreams and free associations, and observation of his behavior disclosed nothing significant. He had partially inhibited his psychical reactions to the terrifying episode while it was transpiring, hence, in my opinion, he was more easily conditioned to react to his own respiratory movements as to the original fear-inciting stimuli. It is to be remembered that cyanosis, labored breathing and other signs of asphyxiation seemed to the patient to be *causes* of fits.

The nature of epilepsy was explained to him and he was convinced of his own security from this disease. This was of immediate benefit to him. He was also helped by the development of a less hazy recollection of the terrifying experience. His capacity for grasping the behavioristic principles involved in an explanation of his illness was meager, but at the end of the survey he had gained 20 pounds in weight, the tachycardia had disappeared and there remained only the tendency to fidget, sniff, sigh and occasionally to experience a much reduced but still appreciable feeling of anxiety. There were no more flights after the first examination.

A letter received from him about four months after my departure stated that he was still experiencing air-hunger, and that he was more nervous. A patient of this type who has intellectual limitations which interfere with an effective grasp of the mechanisms involved usually requires more frequent contacts with the

physician than was possible in this case. He lived in a remote country settlement, and was able to make only infrequent visits to my office.

CASE 92. FEMALE. SEVENTH DECADE

Persistent, Nonadjustive Fear-Reactions.

Symptoms: Tachycardia. Intermittent pulse. Episodes of orthopnea. Precordial discomfort. Palpitation. Pain in top of head and back of neck. Continuously frightened by possibility that she may die suddenly of heart failure. A very nervous, intense, person.

Physical Factors: Cryptic infection (teeth). Excessive tea drinking.

Discussion: The patient confessed to drinking tea excessively, and this was of value therapeutically, since abstinence from tea gave her a sense of progress toward recovery. We agreed to take a conservatively businesslike attitude toward the dental situation, which she had regarded as irremediable because she assumed that her heart would not stand the strain of a session in the dentist's chair. After much juggling she finally went with me to the dentist's and had some gold crowns removed. The very foul odor which greeted her nostrils when the first crown was removed so reassured her as to the curative value of the dentist's work that it was not difficult to effect a disappearance of the secondary nervous symptoms. After several months of radical dental treatment the heart symptoms disappeared.

CASE 93. FEMALE. FOURTH DECADE

Persistent, Nonadjustive Fear-Reactions. Hyperthyroidism.

Symptoms: Tachycardia. Enlarged thyroid. Slight exophthalmos. Fine tremor of hands, agitated. Expression that of great anxiety. Talks constantly in an agitated manner about having permitted "the large nerve which connects the head with the stomach to *dreen* off the nerve force from the brain." Cannot be reassured.

Physical Factors: Hyperthyroidism.

Discussion: This is a case of a previously healthy young housewife who consulted a quack "psychotherapist" for relief from an

acute gastric upset following an indiscretion in diet. He was a rather impressive person who went into trances, and while in this condition received diagnoses and therapeutic directions from spirits. He had a considerable following in the city and effected almost as much injury to those who patronized him as they deserved. *Case 93* was a very credulous, suggestible person, and was much impressed when the quack went into his trance and assured her that she would "go crazy because she had permitted the large nerve which connects the head and stomach to *dreen* (drain) off the nerve force from her brain." This so frightened her that she returned home in the above-described condition. She came under my observation a few days later.

Examination into her history disclosed the fact that until the attack of indigestion and the visit to my psychotherapeutic *confrére* she had not been regarded as a nervous person, and that her domestic life had been an unusually smooth one. Her case seemed clearly to be one in which a hyperthyroidism had appeared abruptly as a somatic reaction to strong fear stimuli.

She was accompanied by members of her family who had countenanced the visit to the quack, and I frankly expressed the opinion that nonmedical persons who assume the responsibility of diagnosing and treating patients for fees should be required to see their cases through to the asylums or the undertakers' places of business—especially when their patients are drawn, as in this case, from the educated classes. The patient and her friends were offended, and did not return to my office.

CASE 94. FEMALE. FOURTH DECADE

Postcritical Inhibition of Psychical Reactions to Fear-inciting Episode. Persistently Recurring, Nonadjustive Fear-Reactions.

Symptoms: Her attacks come on without apparent cause, although they are apt to be more severe and more frequent just before menstruation. They begin with such strong clenching of the hands that the nails cut into the palms. Then the arms jerk in a coarse, arhythmical spasm and the whole body trembles violently, as in fear. During such attacks the hands are cold and bloodless. There is no attending loss of consciousness, and she experiences only a nameless fear. These attacks last from five to forty minutes each, and occur at intervals of from a few hours to several days.

She is also subject to attacks of nausea and vertigo which last from two to three hours each. Cannot eat salads—they seem to precipitate the trembling attacks. Constipated. Is nervous and weeps easily, but is a competent, dependable secretary for an industrial corporation.

Physical Factors: None identified.

Discussion: Six years before this young woman came under observation she was driving a horse and buggy downhill on a country road. It was a very dark night and her young brother was with her. The horse ran away, the buggy upset, and the occupants were thrown out. The brother escaped uninjured, but the patient sustained a fractured clavicle. The first trembling attack occurred while she was in a physician's office, having her fracture attended to.

The patient's memory of the whole episode began with the scene in the doctor's office in which she figured as a person with an injured collar bone. Back of that there was a complete amnesia which included the accident and a period of something more than an hour immediately preceding it. Her intelligence and honesty enabled me to make a careful exploration of her reactive equipment, but nothing of significance for an explanation of her attacks was found excepting, of course, the accident and the attacks themselves.

At my suggestion she undertook to write a detailed account of the events of the evening on which the accident occurred, and thus to lead up to the period for which her memory seemed a blank. Once that period was reached she was instructed to relax and seize upon the most trivial or the most important fragments of memory of the events which might lead to a bridging of the amnesic gap. She found, as had been expected, a tendency to inhibit the rise of the increasingly painful awareness that came as she approached the moment when the horse started to run, but with a little practice this tendency was overcome. After a few weeks she gave me a detailed account of the entire period which had previously been covered by the amnesia. Her recovery followed directly.

In these cases where the patient's ability to recover a detailed memory of the events which belong to an amnesic gap suggests that the inhibition of psychical reaction to the fear-inciting situation

is *postcritical,* a complete and easily accomplished cure is to be expected. A suspension of psychical reaction *in the midst of a terrifying accident* usually makes for a more difficult therapeutic situation, and is not to be confused with inhibition of recall of psychical reactions which are permitted to come unimpeded during an accident. It is possible that suspension of psychical responsiveness to the events of a terrifying accident as they are unfolded is due to behavioristic mechanisms similar to death-feigning in animals. *Case 88* seems to have suffered an actual suspension of psychical responsiveness in the midst of the accident which was responsible for her psychoneurosis, but the case under discussion *(Case 94)* seems simply to have inhibited recall-reactions to an originally full and clear awareness of what currently transpired throughout the entire period of her accident. There are problems involved here which call for appropriate experimental investigation.

CASE 95. MALE. FOURTH DECADE

Indirect Reaction to Fear-inciting Situation. Habit-alcoholism.

Symptoms: Anxiety attacks, during which he feels that he is about to go to pieces and lose his mind. Coarse (alcoholic) tremors. Insomnia. Constipation. Exaggerated tendon reflexes. Slight ankle-clonus. Pupils unequal—react to light with limited *excursus.* Mental capacity seems to be unimpaired. Memory good. Negative serologic findings.

Physical Factors: Alcoholism. Excessive use of tobacco. Syphilis (?).

Discussion: The patient's excessive drinking seemed to be a mere habit rather than a compensatory alcoholism. He was a sturdy, competent man who had fallen into a habit of drinking excessively while operating a saloon. With the advent of prohibition he engaged in various enterprises with marked success, but continued to drink and smoke excessively.

Several years before he came under observation he was told that he had an old, uncured syphilis, and was given a prolonged and vigorous course of treatment with salvarsan and mercurials. This worried him a great deal, but he finally decided that the physician who treated him had been "stringing" (deceiving) him to get his money. It was evident, on examination, that he had effected an

almost complete inhibition of direct psychical (fear) reactions to the syphilis menace, and that his anxiety attacks were indirect reactions thereto. He was easily induced to adopt more temperate habits as to alcohol and tobacco, but the anxiety attacks,which he preferred to ascribe to alcoholism rather than to fear of syphilis, did not disappear until he was induced to abandon his resistance to direct awareness of just what his neurologic anomalies portended.

CASE 96. FEMALE. SIXTH DECADE

Persistent, Nonadjustive, Affective Reaction to Fear-inciting Stimulus.

Symptoms: The patient describes her chief complaint as follows: "It is as if my throat and the back of my tongue were trying to talk in a kind of throbbing way. It throbs all the time, and the throbbing seems like a soundless voice. My talking organs seem to be trying to say something, but can't. Sometimes there is a roaring in my ears along with it."

She is nervous and uneasy, has a tired backache and conceals her queer symptoms lest her family think that she is insane.

Physical Factors: None.

Discussion: Fifteen years before the patient came under observation she was sitting quietly at home one day when she heard an uproar and saw a mob gathering to lynch a man. A neighbor ran up to her window in a little while and told her that the man who was already in the mob's hands had slain her brother, and that the lynching was under way. She was so horrified that she found herself dumb when she tried to exclaim, "Oh! tell them not to add murder to murder." She was menstruating at the time, and her menses ceased abruptly, never to reappear. From the day of the shock until she came under observation the above-described symptoms were continuously present during her waking hours.

In spite of the patient's best efforts to cooperate with me I was wholly unable to relieve her.

CASE 97. FEMALE. SIXTH DECADE

Unexplained Anxiety Attacks.

Symptoms: This is a woman of fifty-five who passed the menopause at forty-nine. She states that she was never nervous until

one year ago, when the present symptoms began. She has attacks of anxiety which last a half day. They include in addition to the anxiety itself, a sensation of a great hand gripping the top of her head. Current symptoms are: violent thumping of the heart, stopped-up sensations in the ears and inconstant numbness of the feet. She feels a "great inward nervousness" most of the time. Constipation.

(One week after initial examination.) The patient has persistent headache, vertigo, nausea and vomiting.

Complete absence of physical signs.

Physical Factors: None identified.

Discussion: This patient is the mother of the equally baffling *Case 24.* The patient under discussion was studied from almost every possible diagnostic angle by some good internists and referred to me for psychopathologic examination. I found nothing of significance in the history of her behavioristic functions. Her history was that of a hard-working, previously well-balanced woman who had raised a family of satisfactory children, and had led a contented, uneventful life until the anxiety attacks began at fifty-four. The appearance of the headache, vertigo, nausea and vomiting was suggestive, but these symptoms disappeared after a few days, were never explained and had not recurred when I received my final report on the case six months later. The symptoms elicited during the first examination, as listed above, were still in evidence.

CASE 98. FEMALE. SIXTH DECADE

Persistent, Nonadjustive, Affective Reaction to Difficulties Growing Out of Personal Relationships and Economic Difficulties.

Symptoms: Physical signs of tubercular infection of right pulmonary apex, but no tubercle bacilli in sputum. Daily chills, followed by rise of temperature to 100°. Occasional night sweats. Weight 76 pounds. Gastric distress after eating. Ache across shoulders. Tachycardia. Constipation. Very tense and nervous. Has nervous attacks during which she shivers for several hours at a time not from cold, but in response to a sense of shrinking dread of painful memories and present difficulties.

Physical Factors: Pulmonary tuberculosis.

Discussion: The patient gave a history suggestive of a tubercular infection which had been slowly progressive for several years.

When the eldest of her three children (now all grown to maturity) was twelve years old the patient's husband became blind, and she was compelled to operate the farm with their help. She worked very hard and saved a little money with a hope of providing for her children's education. Her husband took this money for a trip to a distant state. On his return home he brought with him a distant cousin—a very brazen woman with whom he had fallen in love during his absence. The two quite openly and defiantly carried on an intrigue under the roof which the patient had saved from the creditors, and although the slighted wife and her children supported the household by their hard labor, the adulterous pair claimed that the husband owned the farm and had a right to have his cousin with him. After a good deal of difficulty the unwelcome guest was evicted, but a little later the husband took the family savings and went to live with his cousin-mistress. The patient then instituted divorce proceedings, but before the matter was settled her husband suicided.

After a few years of very hard work she leased the farm and moved to town, where she purchased a house. The break in prices of farm products cut off her income, and she was compelled to recall the eldest son from college. He came home in an unhappy, discontented mood. He was angry because his ambitions had been thwarted, ashamed of the family and too proud to do the only kind of work that was then to be had. His sister had to go to work as a salesgirl in order to provide for the mother's and brother's current needs. She expected the unoccupied brother to do the household chores, but he was too proud and lazy to play the rôle of housemaid. There was a great deal of bickering between them on this account. All this reacted upon the mother, who felt that life had been too persistently oppressive for her endurance.

The above history was not obtained until the patient had been under observation for several weeks. A regime suitable to her needs as a tubercular patient had been prescribed, but she grew steadily worse. Her nervous symptoms and marked reticence made me suspect, of course, that she was reacting to serious personal problems which she was reluctant to discuss. After she had been persuaded to tell her story, and an effort had been made to effect a

more tolerable evaluation of her difficulties she began to improve, and was slowly gaining when the survey terminated. The secondary nervous reactions disappeared.

CASE 99. MALE. FIFTH DECADE

Persistent, Nonadjustive, Affective Reaction to Baffling Business Difficulties.

Symptoms: A few days ago, on entering a railway restaurant in a neighboring city, he found that he was so nervous that he could not give his order to the waiter, and was compelled to remain silent for a few minutes while he was regaining sufficient control of himself to be able to speak. Since then he has been very tense, nervous and sleepless, and has been unable to digest food properly.

Physical Factors: Physical fatigue.

Discussion: Until a few months before he came under observation the patient was a traveling salesman, and had been successful in a modest way. His work required him to solicit orders for staple articles of commerce among retailers in small towns. His dealings were with small merchants who knew him and his firm, and his pleasant personality and experience as a salesman were a sufficient equipment for his work. He was a naturally intense person, and this, together with his irregular habits of eating while making the rounds of his customers, probably accounted for a more or less chronic difficulty with his digestion.

A few months before the patient came under observation he was chosen by a group of local promoters to purchase a mining property in a distant part of the country. This involved efforts to outwit some rival would-be purchasers who could not obtain the cash with which to outbid him, but who were more cunning and more experienced in that sort of thing than he. They persistently blocked his efforts to close the deal which he had undertaken to make, and he finally began to flounder frantically but aimlessly in response to the baffling which he thus experienced. A desire to justify his friends' faith in his business shrewdness kept him at the task long after he ought to have accepted defeat.

The patient was easily persuaded to charge his defeat off to profit and loss, and to look with satisfaction to a return to the work which he was qualified to do. His recovery soon followed.

CASE 100. FEMALE. SIXTH DECADE

Persistent, Nonadjustive, Affective Reaction to Economic Difficulties.

Symptoms: Belches gas which is "hot, and burns like pepper." At times can eat heartily without subsequent discomfort. At other times ingestion of light, simple food is followed by heavy feeling of discomfort in stomach. Constipation. Is tense, nervous and worried.

Physical Factors: None.

Discussion: This patient failed to make adequate adjustment to the economic difficulties of her widowhood. Her efforts to gain a livelihood seemed to be baffled at every turn, somewhat because times were hard, but more importantly because her habitual responsiveness to the situation was affective and infrarational rather than effectively rational. The capricious indigestion disappeared with cultivation of a more adequate mode of responsiveness.

CASE 101. FEMALE. THIRD DECADE

Masturbation. Convulsions. Unsatisfaction of Normally Kindled Sexual Urges.

Symptoms: She has one or two convulsions annually. During these attacks the patient bites her tongue, wets herself and struggles in a typical epileptic seizure. She has, currently, the following symptoms: morning lassitude—warms up as the forenoon advances. Is very tired again by mid afternoon. She is very tense, nervous and uneasy. Easily upset. Stomach often feels full, heavy and burning. A good deal of flatulency. Discomfort over the lower abdomen. Mucus in the stools. Bowels are often too loose.

Physical Factors: Masturbation. Colitis. Epilepsy.

Discussion: The patient's father and paternal grandfather were epileptic. She began to masturbate at about the time of her first menstruation, when she was fifteen. She admitted that she continued this habit until her marriage at twenty-four, and did not enter a convincing denial of its persistence up to the time of her first appearance in my office.

From the beginning of her masturbation at fifteen she was very nervous, but the first convulsion did not occur until she was twenty-three, *at which time she was engaged to marry her present husband.* She had five convulsions during her engagement, which lasted nearly a year. There were no convulsions for nearly three years after her marriage at twenty-four, but from her twenty-seventh year to her thirtieth she had one or two annually.

The patient's husband proved to be of the fat, phlegmatic type, and she informed me that he copulated with her only twice monthly—he thought that more frequent indulgence was not good for her. The fact that her convulsions began during the engagement, at which time she was presumably subjected to a good deal of sexual stimulation, and that they ceased for some time after marriage, was suggestive. She was induced to give an intimate account of her more recent sexual life after her confidence had been gained. She stated that she and her husband occupied the same bed, and that after some preliminary demonstrations of affection he would turn over and fall asleep without having shown any inclination to copulate with her unless the fortnightly indulgence was due. She was much attached to her husband, and accepted his judgment as to the wisdom of his temperate sexual habits, but the nightly demonstrations of affection threw her into a fever of erotic desire. She would lie by her sleeping husband's side and long for copulation. No admission that she relieved herself by masturbating at such times could be obtained, but her denial was half-hearted and unconvincing.

The husband was advised either to occupy a separate bed or to attend to his martial duties more frequently, and an effort was made to bring the patient to an understanding of the importance of stressing erotic values as little as possible. The survey closed before there had been time for any material improvement.

CASE 102. FEMALE. FIFTH DECADE

Indirect Responsiveness to Autoerotic Behavior (Masturbation), Followed by Indirect Responsiveness to Inhibited Endogenous Autoerotic Stimuli.

Symptoms: Fugacious pains, discomforts and disabilities in arms, legs, abdomen, chest and head. Drawn feeling in the eyes. Can

neither walk nor use her arms when tired or excited. Leads a happy life going the rounds of osteopaths, chiropractors and naturopaths, who regard her as an interesting and very obscure case of "spinal disease." Grotesque involuntary movements of hands and arms when tapped with percussion hammer on any part of body, or when subjected to any kind of physical examination which she believes to have reference to her alleged spinal disease. These movements are very rapid, of wide *excursus* and executed in vertical planes. They are comically similar to those of the old-fashioned "jumping-jack" when the activating strings are pulled. The patient fiercely defends her thesis that she has a very grave, incurable spinal disease.

Physical Factors: None identified.

Discussion: One day, while seated at the piano (twenty-five years before she came under my observation), her hands began to move up and down without striking the keys. This behavior was at once followed by "complete paralysis from the waist down" which persisted for about six months. Ever afterward she was liable, at any time, to lose the use of her legs and, to some extent, of her hands and arms for a few hours at a time.

She was a cheerful, friendly spinster, and expressed herself as delighted to exhibit her rare and wonderful spinal disease to a new kind of specialist. In the course of the examination she impulsively confessed that the attack at the piano was precipitated by an abruptly entering, overwhelmingly shameful awareness of having masturbated that morning before she got out of bed. I have since regretted that she was permitted to make this confession prematurely, because she could never be persuaded to return to my office after the one visit.

My lack of tact in this case lost me an opportunity to obtain material which would probably have served to illustrate some important points in the psychopathology of masturbation in females. It has been my experience that precocious stimulation of sexual desire by older persons and consequent precociously acquired inhibitive reactions to sexual stimuli will often be found to account for the hysterical types of indirect reaction to adolescent sexual urges. Hysterical palsies, hysterical anorexia and vomiting and accompanying persistent grievance-reactions to petty infringements of personal advantage are often found to follow masturbation in a

female who has hitherto successfully resisted direct responsiveness to all sexual stimuli for a long period of time, and who seems to have broken through the habitual inhibition and masturbated in a frenzy of erotic desire. Sometimes after a single masturbation, but more frequently after an autoerotic orgy lasting several days or even weeks, the patient finds her direct awareness-reaction to her nasty behavior so painful that she makes a deliberate effort "not to think about it." This much one can obtain from the patient's reports of her own awareness, and without resort to any special technique; ordinary tact and diplomacy are the chief requirements.

Following the deliberate inhibition of awareness-reactions to the act of masturbation and the urge to repeat it come such indirect reactions thereto as this patient presented. More frequently, these indirect reactions are in the form of hysterical anorexia and vomiting.

CASE 103. MALE. SECOND DECADE

Indirect Reaction to Masturbation.

Symptoms: An eleven-year old boy who is very nervous, goes to pieces easily, weeps on slight provocation, is hypersensitive and worries a great deal about his lessons. He is unreasonably irritable toward his parents. Examination discloses adherent prepuce, and boy admits that he has masturbated for several years.

Physical Factors: Adherent prepuce.

Discussion: The boy's parents were quite sure—as boys' parents usually are—that he did not masturbate. They had talked to him about sexual matters and found him both innocent and uninterested. His history was too suggestive of masturbation to leave much room for doubt as to the cause of his nervousness. He was placed upon the examining table, his adherent prepuce exposed to the parents and a matter-of-fact discussion of his present inability to refrain from masturbation entered into. The boy promptly admitted his habit, and made it quite clear to us that he masturbated for the sake of the erotic sensations which it yielded. Circumcision was advised and, more importantly, his parents were instructed to adopt an unrebuking attitude toward his habit. The outcome was satisfactory.

CASE 104. FEMALE. FIFTH DECADE

Persistent, Nonadjustive, Affective Reaction to Impairment of Advantage by Personal Agencies. Indirect Reaction to Autoerotic Acts. Indirect Reaction to Inhibited Heterosexual Urges.

Symptoms: Tachycardia. Precordial discomfort. Arterial hypertension (systolic pressure varied from 200 to 260 and diastolic from 100 to 140). Vertigo. Headache. Indigestion. Tenderness over lower abdomen. Mucus in stools. Constipation. Nausea. No menstruation for six months. Tenderness over nerve trunks in arms and legs. Morning lassitude with some "warming up" as the day advanced. Easily fatigued. Feels tired and weak most of the time. Spends much of the time in bed. Backache. Constant, very marked feeling of inner tension, nervousness and uneasiness. Insomnia. Very irritable under mask of patient martyrdom. Occasional episodes of manic-like high spirits, loquacity, press of energy and distractibility, but without behavior disorder or serious impairment of judgment. These flashes seldom last longer than a day, and are invariably followed by depressive slumps. She is always nursing a grievance against her neighbors, her physicians or the members of her family of whom she is fondest. Her overt responses to these grievances are usually those of the sweet and patient martyr, but she has also outbursts of bitter anger toward those who elicit her grievance reactions.

She has recently had two episodes of delirium, lasting a few weeks each, during which she has had lively visual and auditory hallucinations, and has been completely disoriented as to time, place and people. After she came under observation she had a delirious flash one night, when she tore open her pillow, declaring that she heard her own baby crying within. (The patient is the typically prudish virgin of a generation and locality in which no modest woman will refer to bulls, boars and rams excepting as "big calves," "big hogs" and "big sheep.")

Physical Factors: Arterial hypertension. Chronic, spastic colitis.

Discussion: The patient came from a family of which nearly every member for two generations had been either tubercular or neurotic or both. She had been a frail, shy, sensitive, homely, nervous child. From very early in her adolescence somebody was always saying or doing twiddle-de-dee when, if she had been prop-

erly understood, twiddle-de-dum would have been said or done. The most outstanding feature of her personal history was her tendency to collect and cherish innumerable petty grievances, to none of which she reacted by frankly seeking to correct them. She would grieve and feel endlessly aggrieved because somebody did not guess that she would like a new frock, or that she had a headache and should be restrained from doing chores which her duty drove her to do. Her physical frailty and sensitiveness obtained for her an unusual degree of consideration from all members of the family, but she could find serious grounds for a grievance even in a casual remark to the effect that she was looking well; it only served to show how little they understood her.

During adolescence there was a good deal of dysmenorrhea and menstrual irregularity. Her attitude toward the sex instinct and all matters pertaining to sex was very prudish throughout the examination, but during one of her very few accessible moments she hinted that masturbation had been a curse to her from some time in her second decade.

She entered her twenties a nervous invalid, with constant gastrointestinal complaints. There were always innumerable grievances, always an air of martyrdom, and almost never a comfortable degree of freedom from inner tension, morning lassitude and a chronic sense of fatigue. She never married, and was leading an invalid's life when she came under my observation late in her fifth decade. She was as inaccessible as an old schizophrenic, but the case was studied over a considerable period of time not only because it seemed possible to effect some degree of amelioration, but because I wished to discover whether or not her grievance reactions were traceable to masturbation. My experience has led me to believe that persistent, nonadjustive grievance reactions which do not conform to the paranoid type (and in this case there was no suggestion of paranoid reactions) are often traceable to masturbation. This patient could occasionally be induced to give a cautious sanction to my hint that masturbation was a factor in the situation, but after such an admission she would repudiate me by letter and telephone, only to recall me after the lapse of a week or so and reproach me for lack of interest in her case.

Of course the episode of the baby crying in the pillow during a flare of delirium reflected her desire for motherhood, but this, it

seems to me, might happen to any delirious woman who has been denied motherhood. The patient was too shy, socially awkward and physically unattractive ever to have attracted suitors. The spinster who has always regarded herself as hopelessly out of the running as regards catching a husband is especially apt to be thrown back upon infantile autoerotic tendencies in response to her sexual urges. In this case there was the additional factor of prudishness to account for indirect psychical reactions to what must have been, in her scheme of things, a degrading habit. It was easier to feel aggrieved toward some other persons than to account for her postmasturbation painful state of feeling as due to a degrading act.

Assuming the general soundness of Cannon's[9] methods and interpretations, one might expect a serious degree of arterial hypertension in a patient of this type: the prolonged grievance reactions of the neurotic are biologically, I believe, mere anger reactions of low intensity and inordinate duration. The patient who is too gentle and too tender-minded to permit these indirect, partially inhibited anger reactions expression in overt behavior could be profitably studied by the student of the physiology of emergency reactions.

CASE 105. MALE. THIRD DECADE

Uncontrollable Nocturnal Emissions Secondary to Masturbation. Persistent Nonadjustive, Affective Reaction to Physical Disability.

Symptoms: Nocturnal emissions nightly for three successive nights, then an interval of one week without emissions, then recurrence of the emissions for three nights, etc., this cycle being regularly repeated. Feels weak, languid, nervous and uneasy. Has a good deal of heavy pain in testicles. Is unable to divert attention from his condition.

Physical Factors: Nocturnal emissions.

Discussion: The patient masturbated excessively from his fifteenth to his twentieth year in response to vivid phantasies which had copulation with beautiful girls as their central theme. He was always shy, seclusive and socially inadequate. On a few occasions he copulated with harlots, but found this less satisfactory than phantasy-construction and masturbation. From twenty to twenty-

two he was fairly successful in inhibiting his desire to masturbate, but phantasy-construction became a very important source of satisfaction to him, and he had frequent nocturnal emissions, with pleasing erotic dreams.

At twenty-two he married a girl who was definitely psychopathic and sexually anesthetic. Her timidity and lack of desire, and his own reluctance to force matters, postponed sexual relations between them for three weeks after their marriage. During this period he occupied the same bed with his bride without feeling strongly impelled to copulate with her. After that, copulation occurred twice monthly, and he indulged in it more from a sense of duty to his health than from desire. The act seemed to bring only discomfort to his wife, and it left him with an uneasy sense of having failed to satisfy his desire. Copulation was usually followed by an erotic dream and an emission after he fell asleep. The habit of having nocturnal emission for three successive nights began during the first year of his marriage, but at first the free intervals were often as long as one month each. He was in his thirtieth year when he came under observation, and he stated that for several years there had been intervals of only one week each between the three-night series of emissions.

The birth of a child, unrepaired lacerations, a stubborn secondary anemia after parturition, reluctance to incur the risk of a second pregnancy and the always present sexual anesthesia inclined his wife toward resisting his occasional requests that she copulate with him. He had been repeatedly assured that his nocturnal emissions would do him no harm if he did not worry about them, but in spite of his rather childish faith in the infallibility of doctors' judgments he always felt nervous, languid and generally uncomfortable for several days after the emissions.

He had been treated, in the main, rather stupidly. One physician, in an effort to impress him, performed an unnecessary laparotomy which left him a weak ventral wall, thus requiring change of occupation. At another time he was given the cold-sound treatment, which resulted in such damage to the urethra that he had serious difficulty with strictures and finally complete retention of urine for three days. Brutal but effective surgical intervention relieved the retention and sufficiently effaced the strictures to prevent future difficulty in that direction. He was circumcised, dosed

with bromides until he was stupid and finally given up as a hopeless case.

When first seen the patient was working on a night shift and sleeping daytime. He slept in a union suit, which easily might have increased the congestion of the sex organs by fitting too snugly. He drank strong coffee at all three meals, and always drank water copiously just before going to bed. On going to bed he covered himself too warmly and soothed himself to sleep by constructing pleasing erotic phantasies.

Coffee and condiments were interdicted; he was not permitted to drink water within an hour and a half of bedtime: a loosely fitting nightshirt was substituted for the union suit; the desirability of substituting nonerotic for erotic phantasies was explained to him; a cold hip-bath was prescribed, to be taken just before retiring, and the bromides were reduced as rapidly as his years of dependence on them seemed to permit. The desirability of stressing other values than sexual ones was explained, and it was suggested that he copulate with his wife weekly, making this act, if possible, the climax of sessions of tender demonstrations. He was given a few simple instructions as to legitimate methods of preventing conception.

Under this regime he improved rapidly, and for a period of about six months he felt that a cure had at last been effected. Then the factory in which he had long been employed closed down and he was idle for a long time. Idleness and worry over the financial outlook seem to have impaired his morale. He fell away from the regime which had been prescribed, gave himself up to erotic imaginations, and lapsed into his former condition. He came to me as I was about to leave and informed me that a surgeon who was about to ligate his *vasa deferentia* was very sure that this would cure him. A letter from him about six months after the operation reported that he had received no benefit from it.

The more serious cases of adult autoeroticism that have come under my observation have uniformly impressed me as having among their major determinants a tendency to stress the value of autoerotic satisfactions to such an extent as to render even quite adequate sources of normal heterosexual satisfaction insufficient to meet the urges of these patients. *Case 105,* by reason of his diffidence, social awkwardness and marriage to a sexually anesthetic

girl, was doubtless impelled to take refuge in phantasies and masturbation in response to his overdeveloped erotic urge; but I have knowledge of cases in which men with unusual opportunities for heterosexual gratification have similarly withdrawn themselves from responsiveness to real sexual relationships in order to indulge in the more satisfying constructions of their own imaginations. If one may hazard a guess as to the psychology of the author of "*Fantazius Mallare*"[10] it may be said that both the contents of the maniacally verbose dedication and the story itself reflect an abnormal accentuation of the sexual urge which is clearly responsible for a considerable mass of contemporary literature which is inspired by lay perusals of psychoanalytic literature. The remedy for adult autoeroticism, it seems to me, is to be sought in measures which are calculated to overcome the patient's habit of looking to sexual activities *of whatever sort* for his major satisfactions. There are other sources of major satisfaction which, as I have proposed in Part II, are not in any sense derived from the sexual instinct, and which the individual may be trained to look to habitually for the "kick" that must somehow be gotten out of life in order to avoid emptiness of days.

CASE 106. FEMALE. FOURTH DECADE

Persistent, Nonadjustive, Affective Reaction to Baffled Major Cravings. Inhibition of Direct Responsiveness to Sexual Urges.

Symptoms: No menstruation for six months. Hot flashes. Morning lassitude. Always tired. Nervous and very tense. Tired ache in lumbar region.

Physical Factors: None identified.

Discussion: This is the daughter of *Case 67* to whom reference has already been made. Several factors entered into the determination of her nervousness. In the first place, she was an intelligent, sensitive girl with a background of gentle breeding who was compelled by poverty and lack of special training to work long hours in a factory. After her long day in the factory in the uncongenial atmosphere created by the rough, ignorant and often immoral girls with whom she worked, she returned to the depressive atmosphere created by her low-spirited mother's sighing discontent. There were domestic chores to do at home. Her mother clung to her for

companionship, but they had little in common. To compensate for the general emptiness of her life she pursued with ascetic zeal a narrow, depressing religious doctrine which required so much study and attendance at meetings that there was no time left for more healthful interests and pleasures. Her religion induced a rigid inhibition of all direct reaction to the urges normal to an attractive young woman in her early thirties.

It was futile to discuss matters with her except in terms of her strenuously defended religious beliefs, but on this basis she was persuaded that she ought to acknowledge her right to plan for a more colorful life. The innate rightness of the normal urges of her sex, and of their translation into a receptive attitude toward any decent romance which might be lurking round the corner for her, finally became apparent to the patient. This meant that, although she might never love and marry, she need not inhibit the right kind of psychical reaction to urges which find satisfaction in love and marriage. She agreed to abandon her previously held attitude that it was her duty to show her indifference to worldly advantage by working in the factory, and sanctioned my efforts to obtain for her an office position, where she would have more agreeable contacts. Her social life was also amplified in more healthful directions.

After many long sessions, which covered a period of about eight months, her menses reappeared and there was a general lessening of the nervous symptoms. We had not succeeded in securing an office position for her when I left, and it is unlikely that a satisfactory degree of improvement will be possible so long as she is held to the long hours of unhealthful work in the factory.

CASE 107. MALE. FIRST DECADE

Masturbation. Exhibitionism. Korsakow's Syndrome Sequential to Measles.

Symptoms: Tenderness of arms and legs. Amnesic gaps for recent events which seem to merge insensibly with fairly good memory for periods immediately preceding and following such gaps. Tendency to fill in the amnesic gaps with fictitious experiences. Sits about a good deal, holding his head down and scowling in a sulky, depressed way. Irritable. Unexpected, unaccountable out-

bursts of rage. Unable to learn at school. When stripped for physical examination he had a strong erection, and it was found that this was his usual reaction to exposure of his body. The only time he ever abandoned his sulky scowl in my office in the course of several long visits was when he was stripped. The exposure elicited a pleasant, satisfied expression, which faded as he was dressed again. Admitted masturbation when questioned.

Physical Factors: Measles.

Discussion: The patient was in his seventh year when he came under my observation. The attack of measles had occurred ten months before I saw him, and it was evident from the mother's account that the polyneuritis had been very severe during the first few months after the measles had faded. She was recently divorced, and seemed to be too much preoccupied and unhappy to give the child proper attention. He was sent to the country, where gradual improvement took place.

I could obtain no information from the somewhat demented, unresponsive patient, and very little from the mother. The origin of his masturbation and unnaturally developed exhibitionism remained unaccounted for.

CASE 108. FEMALE. FIFTH DECADE

Indirect Reaction to Endogenous and Exogenous Sexual Stimuli.

Symptoms: Has a continuous sense of living in an atmosphere of hostility. Accuses neighbors of spying, making noises to torment her and casting baleful spell over her. Thinks that a young man who was her house guest has established hypnotic influence over her. Episodes of frenzied excitement, during which she attacks her husband, striking, biting and scratching him—she cannot explain this behavior, saying that it is against her will and desire, and that the young man must have "hypnotized her to do it."

Physical Factors: Menopause.

Discussion: The patient and her husband, childless, much devoted to one another and in comfortable circumstances, took a young man into their home as a paying guest. The guest seems to have appreciated the fact that she was very green and innocent, and she, in turn, did not understand what his boyish fooling meant until he sought to bring matters to an issue by trying, unsuccess-

fully, to copulate with her. She found at this moment, to her horror, that he had kindled very strong sexual feelings in her. Her husband was away from home, and until his return twenty-four hours later the guest's persistent sexual advances and her own keen desire made it very difficult for her to defend her virtue. As soon as the husband returned she told him all that occurred, and he at once exonerated her because he knew how unsophisticated she had always been. After the guest's departure she was tormented by a recurring desire for the seducer's attentions, but finally inhibited direct awareness of it as an endogenously arising psychical reaction. There followed the indirect reactions which constituted the above-described symptoms. She was easily brought to a fair degree of insight.

CASE 109. FEMALE. FIFTH DECADE

Indirect Responsiveness to Inhibited Urges. Indirect Fear-Reactions.

Symptoms: The patient has spent the past four years in bed. She is in the menopause, and complains of hot flashes, irregular menstruation and a general increase of nervousness. She states that several years before she took to her bed she began to have anxiety attacks, during which she would fall helplessly to the ground, but without losing consciousness. Her legs felt weak all the time, and she was so fearful of falling that she finally decided that she was too weak to live on any other basis than that of the bed invalid.

She is now especially upset by frequently recurring attacks of anxiety, during which she is unable to swallow, and suffers agonies of terror lest she choke. Her fear of walking is still very strong. She complains of a constant feeling of detachment: "I feel as if I were not a part of the real world."

Physical examination disclosed nothing save a slight degree of arterial hypotension. She complains of indigestion, constipation and a general visceral uneasiness.

Physical Factors: Menopause.

Discussion: Like so many sham bed invalids, this patient had almost convinced her family that she was suffering from a grave physical malady; that she was a brave, patient and philosophic sufferer; that she had a profound understanding of "New

Thought" and other semi-mystical doctrines, etc. It was obvious that she wished to be made more comfortable without being required to give up her bed.

When she was asked to tell her story in her own way she proceeded, as these patients usually do, to construct a eulogistic account of her merits, martyrdoms and great mental suffering. She never really got ahead with her story, and never really admitted a single personal imperfection. The net proceeds of many hours devoted to recitals of largely irrelevant material may be summed up as follows:

She was utterly ignorant of sexual matters until her marriage, and during her engagement did not appreciate the significance of her own erotic responsiveness to her fiancé's caresses. When she married she felt that copulation was a degrading act, and inhibited her sensual feelings. Complete sexual anesthesia was almost at once established. She submitted to copulation from a sense of duty, but early developed an intolerable aversion toward her husband, regarding him as a coarse-natured, sensual, stubborn, mentally-limited person. He failed to appreciate her fine nature, obstructed her yearnings for vaguely defined "finer things" and was unsatisfactory because of his easy-going acceptance of her temperamental flurries. When she was thirty-six her youngest child died, and the anxiety attacks dated from that time.

She proved to be one of the most inaccessible patients of my experience, and it was impossible to hold her to an account of anything but her own rare soulfulness. When it became apparent that nothing could be gained by my usual methods of examination I resorted to the following procedure:

She was told that a woman who marries, as she did, for love, and who becomes sexually anesthetic at once is usually a very erotic person who is too dishonest to tolerate a frank awareness of her own sexual urges. Such a woman is usually found to have had experiences in childhood which have accentuated the prepubertal tendencies (autoeroticism, exhibitionism, homosexual and incestuous responsiveness, etc.) which are the forerunners and ultimate components of the normal mature heterosexual urge; and to have reacted to them in the end as to shameful desires which cannot be faced without discomfort. Usually, in these cases, there has been a

precocious development of sexual desire, in consequence of which there is inhibition of sexual urges at a time when they ought to find no resistance to free access to consciousness. There thus arises a pseudoinnocence which is not innocence at all, but a fairly successful dishonesty.

She need not delude herself, I assured her, with the belief that such inhibition was the equivalent of a conquest of the "animal" side of her nature. Sexual urges normally determine the rise of corresponding consciously held desires and consciously directed behavior. When such determination is inhibited, the urges find indirect expression in symptoms which are recognized by the psychopathologist as roundabout sexual behavior.

Anxiety attacks in patients with her history and symptoms are dishonesty attacks, I told her. They mean that the patient is so fearful of losing her face in the mirror of her own soul that whenever the determinants of an inacceptable urge threaten to give her a direct awareness of sexual desires, her inhibitive habits permit only silly fears to come into consciousness, so that she does not know that what she really fears is her own human nature. Thus her fear of sinking to the ground or of choking was really an indirectly expressed fear of impulses which she was too vain and cowardly to face.

She need only make a courageous resolve to open the trap door to the cellar whence came the determination of most of her psychical reactions and overt behavior, and to explore that cellar in order to be free from anxiety attacks, pseudoinvalidism, pseudomartyrdom, etc. Many examples were adduced to make the meaning of this lecture clear to the patient, and in the enthusiasm of the moment she stated that in the shadowy background of her mind was a horrid, insistent desire to have her husband die. A choking attack terminated this interview, which was the last that I had with the patient. The next day came a letter, expressing a patient tolerance of my failure to understand her, but repudiating me and my works. She had decided to go over to Christian Science, which had proved the falsity of the "claims" implied in my talk.

I had expected a revolt, and replied to her letter in a way to make her feel that any course but that of absolute willingness to permit nonconscious forces to flash into her mind whatever she was

"wound up" to have flashed into her mind would be cowardly. Several weeks passed, and I was about to return to Santa Barbara, when I received a letter from her, announcing her recovery.

In this letter she claimed that she had "explored her subconscious mind," had found out why she had been ill so long, had squared herself with her previously inhibited urges and had overcome all her unworthy desires. Although she expressed gratitude for what I had thus made possible, and professed an understanding acceptance of my lecture, I do not believe that she ever gained any real insight into the mechanisms involved in her illness. It is more likely that processes which we really do not understand—in spite of the wealth of speculations in which we indulge—were responsible for a change in her total reactive set similar to that which occurs when a neurotic patient recovers under the ministrations of Christian Science.

There are times, I believe, when one is justified in resorting to this rudely impatient kind of psychotherapy—especially when the patient is too vain and too solidly confirmed in habits of self-deceit to cooperate in the physician's efforts to disclose the determination of grossly dysteleologic adjustments. The fineness of a consistently honest intention to lay aside an unworthy self-defensiveness so that memory functions may disclose explanatory accounts of the past simply does not appeal to a certain type of vain and too painfully "soulful" neurotic. None of us are free from a certain degree of reluctance to recall various nasty little urges, imaginations and overt acts of childhood and adolescence, but most of us can overcome this reluctance for the sake of effecting an emancipation from crippling habits of indirect psychical responsiveness to the determinants of unpleasant, often humiliating awarenesses. One of my patients, who disclosed an entire willingness to cooperate with me, objected to the methods of the psychoanalysts as a kind of psychologic rape, and said that my method, by its avoidance of specifically directive questioning, permitted the patient to rape herself in this sense. It may be that this patient really did rape herself, psychologically, and that I have done her an injustice. At any rate, she quit her bed and led an outwardly normal life.

CASE 110. FEMALE. THIRD DECADE

Conditioned Homosexual Reactions. Homosexual Jealousy Reactions. Persistent, Nonadjustive, Affective Reaction to Failure to Gratify Major (Homosexual) Cravings.

Symptoms: Tachycardia. Amenorrhea. Sick headaches. Morning lassitude. Easily fatigued. Sense of inner tension and marked emotional uneasiness—feels "as if on the point of exploding." Capricious appetite. Episodes of depression with threats of suicide. Ever-present, painful jealousy, which attains an intolerable intensity whenever the object of her homosexual devotion displays affectionate friendliness toward any other girl. Tantrums of jealous rage, during which she seeks to effect some disadvantage (always of a rather trivial kind) to any person who seems to enjoy the favor of the beloved one.

The patient is anemic and undernourished.

Physical Factors: Malnutrition. Secondary anemia. Amenorrhea.

Discussion: From her earliest childhood the patient's father was known to her as an intemperate, disloyal person who brought her mother great unhappiness. The mother was an unstable, futile person, and focussed upon the patient a jealously excluding, demonstrative affection. The father always stood for maleness in the patient's scheme of things, and maleness thus had for her a repellent reactive value.

Her history clearly showed that she was thus early conditioned by the father's repellent behavior and the mother's excessive demonstrations of affection to respond to her own endogenous sexual stimuli by giving to females and demanding of them the exclusive and excluding kind of affection that carries with it ardent physical expression. When the revolt against both maternal authority and sexual responsiveness to the mother came, the patient went out into the world yearning for a passionate, all-satisfying kind of friendship with an as yet to be discovered person of her own sex. Such a friendship was established with a kindly, unselfish, unsophisticated young woman who was seduced to homosexuality by the patient before she sensed the trend of their growing attachment.

The friend sought to free herself from her own late and not very seriously developed homosexuality, but was too easy-going to effect

this. There followed endlessly recurring scenes, during which the patient accused her friend of waning affection, undue fondness for other girls, etc. The friend would avoid her, only to return to the patient with protestations of affection when the latter frightened her into submission by threats of suicide.

The patient's frankly admitted homosexuality made it easy to discuss the situation with her in a very direct way. She saw clearly enough that she reacted sexually to femaleness rather than to maleness because the family situation had conditioned her to do so; but her attitude was similar to that of a girl who loves an alcoholic suitor. My patient saw that her own advantage and that of the race required her to renounce her homosexual attachment, but this did not lessen the hotness of her desire for matehood with her girl friend. She said to me, "Without Jane my life would be empty—not worth living. Would a husband who loves his wife like to think of her rooming with any man but himself? Well, that is how I feel toward Jane."

Homosexuality in women is more easily dealt with, in my experience, than in men. In these cases the physician ought to be able to disclose to the patient, by his own kindliness and understanding, the attractiveness of the father-daughter relationship. With the patient's growing sense of the pseudo-father's resources as a protective, sympathetic adviser is apt to come a lessening of the tendency to react to maleness as to a complexus of repellent stimuli. The so-called fixation of the patient upon the physician need mean nothing more embarrassing than that he acquires for her the reactive value of a male parent. Hand-holding, back-patting and still more erotically tinged kinds of "petting" only tend to change the father-physician into the self-seeking lover, and, in my opinion, ought never to be resorted to unless the physician wishes to marry his patient. The physician who actually reacts to his patients as a father does to a sickly child can do a great deal toward educating the homosexual girl or woman to a normal responsiveness to maleness as such. It has been my experience that fatherless girls and daughters of drunken, adulterous, flagrantly unworthy fathers are apt to manifest strong homosexual tendencies and, if they marry, to lack normal sexual responsiveness to their husbands.

This patient gradually weakened in her conviction that life would be utterly empty without the object of her homosexual devotion, and began to find some interest in the possibility of achieving matehood with a worthy man. She consented to a separation from her friend, and became increasingly amenable to my advice as to future plans, attitudes, etc. Unfortunately, the survey terminated before the work of reeducation could be carried to a point at which it seemed likely that her growing responsiveness to maleness could be expected to continue of itself. The continued presence of the unworthy father and of the oppressively affectionate mother in the situation is, of course, an unfortunate circumstance.

The latest report from the patient suggests that she had made some progress.

CASE 111. FEMALE. THIRD DECADE

Indirect Reactions to Incestuous and Homosexual Cravings.

Physical Factors: None.

Discussion: Prolonged study of this case disclosed three factors which seemed to have entered into the determination of her hysteria.

1. She was an only child, and she and her father were intensely devoted to one another. It was her habit to sit on his lap while he read in the evening, and this habit, which began when she was a little girl, was continued until she was about twenty, at which time the father died. At some time near her fourteenth year, either just before or just after her first menstruation, she began to experience thrilling sensual satisfaction in response to these sessions on her father's lap. She would embrace him passionately, and long for even closer contacts. He seems to have ignored or even, perhaps, to have been ignorant of the deeper significance of the fervour of his daughter's affection. As she grew older and came to an understanding of the ultimate goal of the kind of urge that led to her affectionate behavior toward her father there was a real conflict between her desire to engage in such demonstrations and shuddering unwillingness to face the incestuous urges which more clearly defined themselves as time passed. She finally succeeded in inhibiting awareness of the incestuous aspect of her relationship to her father, and during the last two years of his life was able to

be as demonstrative as usual toward him without experiencing any painful awarenesses.

It is of interest that after this patient became accessible to the kind of examination which renders such disclosures possible she reported to me one day that she had dreamed during the night just passed that she had copulated with her father. An orgasm had given reality to the dream. An hysterical convulsion followed shortly after she had made this disclosure and had left my office.

2. Early in her childhood the patient acquired a knack of evading the more unpleasant demands of reality by developing symptoms of physical disability. If matters had not gone well at school, and she shrank from returning the next day to meet the teacher whose disapproval she had elicited or the friends with whom she had quarrelled, a convenient headache or slight loss of appetite would generally free her from the necessity of doing so.

After her father's death she never seemed to obtain an effective realization of the fact that she could not have things except as she earned money with which to purchase them, and that a job was not like the public schools; if she ordered things she must either pay for them or meet the displeasure of her creditors; and if it seemed irksome to go to work on a given day, even a convincing excuse, if too often given, would not enable her to draw pay for days when she remained at home. Nevertheless, she ran bills which she could not hope to pay, and her frequent absences from her place of employment often made her shrink from meeting her creditors and her employer. It was significant that she was especially apt to have a series of convulsions during the first of each month, when bills came in; and that these seizures were also apt to be precipitated by a day's absence from work.

3. After her father's death she formed a friendship with a young woman who seems to have loved her, from the beginning, in a morbid way, and to have assumed the rôle of protector. Whenever reality, in the guise of importunate creditors and displeased employers, pressed too hard upon the patient, this friend was the one to whom she fled for advice and consolation. In time the friend became a sexual object for the patient, but here, as in the father-relationship, the patient inhibited all direct psychical reaction to the urges kindled by the friend excepting an allowable sense of

affection for a good friend. Ordinarily the two friends displayed a fairly normal restraint in expressing their fondness for one another, but whenever the patient felt that she was about to have a convulsion she would go to her friend's home, have her fit and for several hours afterward receive a lot of affectionate coddling. The seizures almost always occurred in the evening, after both girls were free from demands of any kind. A seizure meant a night in the friend's arms. Repeated examination of both girls convinced me that neither was clearly conscious of the erotic element in their relationship. The friend was a very fine, unselfish person, altogether unsophisticated and clearly the victim of a habit of inhibiting direct psychical reaction to her own sexual urges.

The patient obtained a fair degree of the insight, but her recovery from the hystero-epilepsy was on the basis of a defiant acceptance of her homosexuality as an allowable thing. She informed me that never, at any time in her life, did she feel erotic impulses toward any male excepting her father. Toward the end of the survey the friend ceased to be accessible to me except in the most superficial way, but when I last saw her she impressed me as being on the verge of a mental collapse.

CASE 112. FEMALE. THIRD DECADE

Pathologic Physical Reaction to Faulty Sexual Hygiene.

Symptoms: Precordial distress. Dyspnea on exertion. Pulse intermittent and persistently above 90. Pain, sometimes dull, sometimes cutting, in epigastrium. Breath foul. Constipated.

Physical Factors: None identified.

Discussion: The patient was a young married woman of a rather sensual type. Her husband's difficulty in finding occupation during the hard times of 1921 made them both unwilling to have children. He practiced *coitus interruptus* to prevent conception. They had intercourse frequently, and always just as the patient was on the verge of an orgasm her husband found it necessary to withdraw to prevent ejaculation within her vagina.

Reestablishment of more hygienic sexual habits was followed by a disappearance of the above-described symptoms.

CASE 113. FEMALE. SEVENTH DECADE

Persistent, Nonadjustive, Affective Reaction to Economic Difficulties and Baffling Physical Discomforts and Disabilities.

Symptoms: Morning lassitude. Tension. Headache. Can't sleep for worrying. "Buzzing in the ears." Easily fatigued and currently feels weak. Easily upset. Occasional sensations of air-hunger. Anorexia. Constipation. Blood pressure: systolic, 150; diastolic, 85. Physical examination negative.

Physical Factors: Influenza with slow convalescence three years before the patient came under observation.

Discussion: This patient was a domestic servant whose nervous symptoms were traceable to her reaction to decreased physical endurance and earning power after a debilitating attack of influenza. She improved after she was persuaded to readjust her life to her lowered level of physical capacity.

CASE 114. FEMALE. THIRD DECADE

Persistent, Nonadjustive, Affective Reaction to Physical Discomforts and Disabilities and to Economic Difficulties.

Symptoms: Currently tense, nervous and uneasy. Feels weak and tired all the time, and is not able to secure restful sleep. She has attacks during which she feels overwhelmed by her difficulties, and "goes to pieces."

Physical Factors: Physical exhaustion secondary to child-bearing.

Discussion: This patient bore three children within a period of a little more than three years. At the birth of the last child, which was nine months old when the patient came under observation, she had a number of eclamptic convulsions. Her husband was unable to secure steady employment, and they were often in need of the common necessities of life. He was a shiftless, easy-going fellow, and the patient worried a great deal about their poverty. Whenever he secured a day's work she was compelled, in spite of her physical incapacity, to take care of three fretful, undernourished babies during his absence from home.

The most proximate need in this case had to be met, of course, in terms of supplies for the family and a job for the husband. The secondary nervous symptoms disappeared with an improved economic outlook.

CASE 115. FEMALE. THIRD DECADE

Persistent, Nonadjustive, Affective Reactions to Impairment of Advantage by Personal Agencies and to Baffled Major Cravings. Reaction to Need of Acquiring Status as Physically Impaired Person.

Symptoms: Nervous, tense, uneasy and restless. Feels like a rat caught in a trap. Morning lassitude. Easily fatigued. Easily upset. Constipated. Constant gnawing, burning sensation in stomach. Analysis of gastric contents reveals excess HCl. Steals money to obtain whiskey, which relieves tension.

Physical Factors: Hyperchloridia.

Discussion: The patient had been reared by her grandparents, who coddled her a good deal, and assumed that she was physically unequal to the chores which a girl must usually do on a farm (they were farmers). At twenty she married a stingy, hard-working farmer of twenty-nine, and went to live with her mother-in-law. The mother and son had previously had the farm and home to themselves, and they now demanded that the patient lead the narrow, laborious life which satisfied them. The patient accepted the general rightfulness of the tradition which requires the farmer's wife to work hard and to spend as little money as possible, but she was unequal to the self-denial and physical hardship which this involved, and cheated at every turn. Thus she would feign illness to escape Monday's washing, buy things and have them charged without her husband's knowledge or consent, visit her grandparents and overstay the time agreed upon when hard work was impending at home, etc. The mother-in-law hated the patient, and incited the husband against her. During the first examination in my office this sordid triangle of conflicting affections and motives created a very amusing situation. The mother-in-law would ask to see me alone in the examining room, then berate the patient as a lazy, dishonest, malingering slut whom she wished her son to divorce. Then the son would beckon me into the hall and whisper his doubts as to whether whiskey and nerves might not account for his wife's delinquencies. He was obviously attached to his rather pretty young wife, but even more attached to his mother and the money which he and she had earned and were capable of earning. The patient, meanwhile, contrived to make an appointment for later in the day without the

knowledge of her husband and his mother. I dismissed them, and the mother-in-law warned me as she was leaving that no bills for professional services would be paid unless she or her son accompanied the patient.

The patient returned later in the day, alone. At first she lied to me about the whiskey, and would discuss nothing but the mother-in-law's jealousy and stinginess. When, finally, she saw that I took her seriously as a person who was somehow ill, she broke down and told her story without reserve. Her constant sense of grievance against the mother-in-law and the too easily influenced husband; her limited physical capacity for farm work; the always painful disinclination for work of any kind; the loneliness and dreariness of a life which contained almost none of the pleasures to which she had been accustomed in her grandparents' home—all these things made her so nervous and miserable that she "just took" money wherever she could find it, regardless of its ownership, and sought surcease in whiskey.

She was not seriously alcoholic, but her general nervous condition was serious enough to call for drastic remedies. I got in touch with her grandparents and induced them to sanction her return to them. She improved rapidly while in her childhood home, and was finally dismissed as recovered. Shortly before the survey terminated her husband coaxed her back to his home, and within a week there was a return of the nervous symptoms. The patient lost weight rapidly, there was a good deal of sharp pain which cut through the epigastrium, and the patient looked so ill that even her mother-in-law was worried. She was put on a diet and returned to her grandparents' home, and had improved when heard from a few days later.

CASE 116. FEMALE. FOURTH DECADE

Persistent, Nonadjustive, Affective Reaction to (1) Impairment of Advantage by Personal Agencies and (2) Baffling Physical Discomfort and Disability.

Symptoms: Usual symptoms of moderately advanced tabes, with considerable discomfort from lightning pains. Persistent sense of grievance against husband who infected her. Frantic sense of baffledness growing out of failure to experience relief promised by

osteopaths and chiropractors, who diagnosed and treated her case as one of spinal maladjustment. Nervous, restless, tense and uneasy. Morning lassitude.

Physical Factors: Syphilis. Tabes.

Discussion: This is typically a case in which an increment of secondary nervous symptoms is traceable to the patient's persistent affective response to the grievance-inciting behavior of the husband who was disloyal to her and infected her; and to her physical discomforts and her failure to obtain relief. Such reactions are, behavioristically, of the emergency type, and reflect the functioning of nonrational reactive tendencies. When this patient discovered that her syphilis had not been cured, that she had tabes and that she might expect marked amelioration or even complete arrest of the disease, the nontabetic nervous symptoms were at once much reduced. It was not difficult to induce a cessation of the grievance reactions, since she had already divorced her husband.

CASE 117. FEMALE. FOURTH DECADE

Persistent, Nonadjustive, Affective Reactions to Baffled Major Cravings and Impairment of Advantage by Personal Agencies.

Symptoms: Morning lassitude. Very tense. Has fits of depression which occur four or five times a year and last about a fortnight each. Feels a surge of blood to the top of her head which is attended by nausea and marked increase of nervousness. Fears that she is going insane. Attention is largely occupied with her grievances and baffled longings. Indigestion. Constipation. Wassermann negative.

Physical Factors: None.

Discussion: This patient is a naturally affectionate, clinging type of woman. She had sought, for years, to retain the love of a drunken, adulterous husband who, in spite of his habits, had always been successful in his business enterprises. Whenever it suited his mood he treated his wife affectionately, but he usually rebuffed her affectionate advances by jeering at her as a "spoony fool." Six years before she came under observation she had a nervous collapse, and was in bed for one month during the fastigium of her nervousness and exhaustion. Recuperation from this illness was slow, and ever afterward she had attacks of painful depression four or five

times yearly, each attack lasting about a fortnight. The above-described symptoms had been gradually increasing in severity during the year which preceded her first visit to my office.

It was suggested that she acquire a habit of looking elsewhere than to her husband's treatment of her for her current satisfactions. The uselessness of endlessly nursing feelings of grievance and longings which could not be satisfied became apparent to her, so she undertook to readjust her life on that basis. When her husband found that she was no longer moping at home, and that she seemed to derive a good deal of satisfaction from a suddenly expanded social life, he began to treat her with greater consideration. It amused her to "keep him guessing" as to her state of feeling toward him. She finally regained a satisfactory degree of equanimity and physical comfort.

CASE 118. MALE. FOURTH DECADE

Persistent, Nonadjustive, Affective Reactions to (1) Impairment of Advantage by Personal Agencies and (2) Ungratified Major Cravings.

Symptoms: Tachycardia. Fine tremor of hands. Loss of weight. Dyspnea on slight exertion. Episodes of diarrhea. Easily fatigued. Easily upset. Nervous, tense and uneasy. Feeling of detachment, as if he were no part of reality. Inconstant depression. Subjective attention disorder.

Physical Factors: Hyperthyroidism. Excessive use of tobacco.

Discussion: Eight years before he came under observation his wife was seduced by another man, whom she married after a divorce was obtained. The only child, a girl, was awarded to the patient. His struggles to give his child proper care seemed to accentuate his ever-present sense of grievance against his wife and her seducer, and his painful longing for the mate who had been stolen from him. Like most of the men of his class, he chewed tobacco to excess, and this may have been a factor in determining the tachycardia.

It was explained to him that, although his initial reaction to his domestic tragedy was to have been expected, its persistence over so many years was pathologic, and inappropriate to his present needs. His badly shaken confidence in the virtue of wives was gradually restored as he gained insight into the behavioristic mechan-

isms which had held him to a nonrational, nonadjustive reactive attitude toward present realities. Within three weeks his pulse rate declined from 120 to 78, and he gained ten pounds. A reduction in his daily consumption of tobacco was, doubtless, a helpful factor, but his hopeful, if rather bashful acceptance of my advice that he go wife-hunting seemed to play a more important rôle in determining his recovery.

CASE 119. MALE. THIRD DECADE

Persistent, Nonadjustive, Affective Reaction to (1) Failure to Acquire Status as a Physically Impaired Person, (2) Physical Discomforts and Disabilities and (3) Impairment of Advantage by Personal Agencies.

Symptoms: Morning lassitude. Easily fatigued. Marked feeling of physical inadequacy. Persistent sense of grievance. Tachycardia. Dyspnea on exertion. Pain in nose and forehead. Extremely hypochondriacal attitude toward every passing discomfort.

Physical Factors: Sinus infection. Resumption of physical labor too soon after attack of influenza.

Discussion: This ex-service man had an attack of influenza while in military camp, and while still convalescent developed a painful sinus infection. He was discharged, and on returning home was required to plunge into hard physical labor. His father, who was a farmer, was something of a slave driver, and was much irritated by the shortage of farm labor. The patient felt weak, his sinus infection caused him a good deal of pain, and he could not convince his father that he was unable to do his share of the work. It was at this juncture that he fell into a habit of exaggerating the extent of his suffering and disability, and became a nuisance to his family. Baffled, unequal to the tasks imposed upon him, and in pain most of the time, he applied for relief to the physicians appointed by the government to examine ex-service men. His clamorous insistence on the reality of his suffering and the multiplicity of his complaints convinced them that he was simply a malingerer, so he drifted into my office in quest of evidence to submit to his congressman. He was clearly reacting to a genuine sense of grievance, genuine pain, genuine physical disability and, perhaps, most importantly, to baffled efforts to persuade his father that he was really ill and suffering.

A sympathetic but frank sizing-up of his situation gained his confidence, and enabled me to persuade him to abandon all hope of inducing either his father or the government to take a just view of his needs. For several weeks he improved steadily, but when the pressure of September work on the farm increased the demands made upon him, he resumed the habit of attending to and magnifying every possible symptom of disability. Life seemed to him a weary burden, and he felt unequal to its demands. His baffled sense of defeat and of personal inadequacy, associated with an ever-present sense of grievance against his father and the government doctors, might have been corrected had he not been kept at work which was obviously beyond his strength. He longed to bury himself in the wilds somewhere, there to lead the life of a hunter and trapper. It was pointed out to him that this romantically conceived plan might be unobjectionable as a means of supporting himself while he was regaining his strength, but that he must not regard it as a final retreat from reality. He must, indeed, regard such a course of action as a remedial measure which would in time enable him to return to civilization, confident of his ability to play the man without subsidies from his father or the government. The longing to lead the life of a hunter and trapper might thus be regarded as equivalent to the temporary retirement of a wounded soldier from the field of action; he retires, not because he feels an inherent inadequacy as a warrior, but because he wisely acknowledges the need of recuperation.

The patient gradually lost interest in his scheme for a retreat to the vaguely localized wilds of his dreams, and began to make plans for an occupation which would free him from dependence on his father. There was evidence of growing insight and a considerable lessening of all symptoms when the survey terminated.

CASE 120. FEMALE. FIFTH DECADE

Persistent, Nonadjustive, Affective Reactions to (1) Inability to Satisfy Major Cravings and (2) Threatened Impairment of Advantage by Impersonal Agency (Quiescent Pulmonary Tuberculosis).

Symptoms: Tense, restless, nervous, uneasy and unsatisfied. Morning lassitude, with improvement as the day advances. Easily fatigued. Indigestion, flatulency and constipation. Tired backache; back feels sensitive. Homesick for husband.

Physical Factors: Quiescent pulmonary tuberculosis.

Discussion: Her husband's occupation kept him in a hot, damp country in which she could not live on account of her tuberculosis, which became manageable in the city of my survey after she had spent some time in Colorado. His future advancement depended on his ability to continue his residence in the place where the climate was so insalubrious, and his wife was in entire accord with plans which would probably require separation from him for an added two or three years. Nevertheless she was unable to adjust herself to separation from him, and to the fact that she had a disease which might take a serious turn at some future time. A better understanding of the reactive mechanisms involved in the determination of her nervousness brought improvement. This was one of the many cases of the survey in which there was need of acquiring rational reactive habits with reference to a difficult personal problem.

CASE 121. FEMALE. SIXTH DECADE

Persistent, Nonadjustive, Affective Reaction to (1) Baffled Major Cravings and (2) Impairment of Advantage by Personal Agencies.

Symptoms: Recent disappearance of menstrual functions. Hot flashes. Capricious intolerance for various kinds of food. Gastric discomfort. Constipation. Morning lassitude. Muscles feel tired and she aches "all over." Tired ache in lumbar region. Tense, nervous, irritable, restless and discontented.

Physical Factors: Menopause.

Discussion: The patient married very young and without much discrimination to escape a stepmother's tyranny. Her husband was an uninteresting, unambitious, futile, inefficient person. She, on the other hand, was ambitious to get ahead financially, and to lead a more interesting and colorful life than that of the wife of a backwoods farmer who was incapable of earning more than a meager livelihood. Along with her constant yearnings for satisfactions which never came, was an ever-present sense of grievance against the stepmother whose tyranny had driven her into an undesirable marriage and the husband who could not be spurred to more productive effort. She got along in a fretful, nervous way until the

increased emotional instability of the menopause entered as the final determinant of a serious degree of nervousness.

Not long after the patient came under observation she developed an iritis, and to this day she believes that it was due to a small, tentatively administered dose of corpus luteum which she received in my office. I was discharged as a dangerous experimenter.

CASE 122. FEMALE. FIFTH DECADE

Persistent, Nonadjustive, Affective Reaction to (1) Physical Discomforts and Disabilities and (2) Impairment of Advantage by Personal Agency.

Symptoms: Gastric discomfort. Pelvic discomfort. Painful, chronic cystitis. Frequent and severe sick headaches. Constipation. Palpitation. Hot flashes. Amenorrhea. Easily upset. Painful morning lassitude. Ever-present sense of nervousness, tension and uneasiness. Persistent sense of grievance.

Physical Factors: Postoperative menopause. Operation for pyosalpinx, followed by painful adhesions and stubborn cystitis.

Discussion: The patient had been infected with gonorrhea by her husband, a noisy, brutal, adulterous person who squandered his earnings on harlots and left his wife to pacify the unpaid tradesmen. She was physically unfit to earn her own living, and was too thrifty and honest to summon physicians whom she could not hope to pay. It was explained to her that her nonadjustive reactions to her physical discomforts and to her very real grievances interfered with the attainment of a degree of health essential to her emancipation from economic dependence upon an utterly unworthy husband. She quickly appreciated the importance of so formulating her problems as to be able to effect direct, rational adjustments to them. Her improvement on this basis was progressing satisfactorily when the survey terminated.

CASE 123. MALE. FIFTH DECADE

Persistent, Nonadjustive, Affective Reaction to Impairment of Advantage by Personal Agencies. Reaction to Need of Acquiring Status of Physically Impaired Person.

Symptoms: Vague discomforts which are referred to his head, chest, abdomen and back muscles. Unable to eat the simplest food

without distress unless his attention is distracted from his worries. Waves of physical and mental depression, during which he has an "all-gone feeling." Lack of self-confidence. Headache. Backache. Tense, nervous, restless and uneasy. Extreme morning lassitude. Much preoccupied with ancient grievances and present discomforts.

Physical Factors: Heat prostration five years ago was initially a factor.

Discussion: Five years before the patient came under observation he suffered a heat prostration under conditions which entitled him to compensation under an appropriate act of the state legislature. His tactless pursuit of his rights irritated the medical board which had his fate in their hands, and they unjustly rebuffed him as a whining neurasthenic. He spent the remaining years which intervened in quest of medical opinions to substantiate his claim that the heat prostration had physically incapacitated him for self-support. His savings had all but disappeared when he came under observation and was induced to find light occupation. I had only a very limited degree of success in my efforts to change his reactive habits.

CASE 124. FEMALE. FIFTH DECADE

Persistent, Nonadjustive, Affective Reactions to (1) Physical Discomfort and Disability, (2) Impairment of Advantage by Personal Agencies, and (3) Economic Difficulties.

Symptoms: Pelvic discomforts referable to chronic cystitis and after-effects of four separate operations for pelvic gonorrhea. Amenorrhea following recent castration. Tachycardia. Vertigo. Headache. Tense, nervous and unable to relax. Morning lassitude. Persistent sense of grievance toward former husband. Easily fatigued, and always feels weak and unequal to her daily tasks. Chronic local neuritides. Visceral uneasiness and complains of indigestion referable to a stubborn colitis. Marked hypochondriacal fixation. Subjective attention disorder.

Discussion: Although the extraneural somatic pathology in this case was sufficient to account for a great deal of discomfort and

disability, there was clearly an increment of adjustive dysfunction which was identifiable in terms of various persistent affective reactions to situations which were too much for her. Her account of herself, which was endlessly devoted to irrelevancies, showed that before she was infected with gonorrhea by a faithless husband her persistent jealousy reactions determined a neurasthenic type of symptomatology. Then came the infection, which elicited not only nonadjustive reactions to the baffling discomforts of a pelvic gonorrhea, but a futile, ever-present sense of grievance against her disloyal, unclean husband which persisted ever afterward. Following this there was divorce, failure to receive the alimony awarded by the Court and a difficult struggle to support her child and herself. Finally, four painful and costly operations, the last of which involved castration and premature menopause, left her still baffled in her efforts to secure relief from discomfort. My efforts to relieve this patient were wholly unsuccessful. Anything less tangible than drugs and operative measures failed to engage her attention.

CASE 125. FEMALE. FIFTH DECADE

Persistent, Nonadjustive, Affective Reactions to (1) Impairment of Advantage by Personal Agencies, (2) Physical Discomforts and Disabilities, and (3) Economic Difficulties.

Symptoms: Classical neurologic signs of moderately advanced tabes, including lightning pains and malnutrition (20 pounds under usual weight). Painful morning lassitude. Tense, restless, nervous and uneasy. Persistent sense of grievance against divorced husband. Baffled sense of inability to secure either relief from or diagnosis of her pain and disabilities. Much futile worry about decreased earning capacity.

Physical Factors: Syphilis. Tabes.

Discussion: This woman knew that her husband, from whom she was now divorced, had infected her with syphilis, but she assumed that the inadequate treatment which she received in 1904 had cured her. She attributed her present disorder, and particularly the lightning pains, to some sort of neuritis or rheumatism which the doctors had been unable either to relieve or to diagnose. A

positive diagnosis of tabes with the assurance that present methods of treating this disorder often give very gratifying results, pleased rather than distressed her. She was instructed in better modes of adjusting herself to her memory of the wrongs inflicted by the husband before the divorce, and to her present economic difficulties. The secondary nervous symptoms disappeared before the antisyphilitic measures instituted for the amelioration of her tabes were effective in lessening the tabetic symptoms.

CASE 126. FEMALE. FIFTH DECADE

Persistent, Nonadjustive, Affective Reactions to (1) Impairment of Advantage by Personal Agencies, (2) Economic Difficulties and (3) Baffling Physical Discomforts and Disabilities.

Physical Factors: Pelvic gonorrhea. Castration. Menopause. Postoperative adhesions. Cholecystitis.

Symptoms: Tachycardia. Palpitation. Dyspnea on slight exertion. Morning lassitude. Easily fatigued. Easily upset. Tense, nervous, restless and unable to divert mind from her worries and grievances. Sick headaches. Scalp paresthesia. Pain in back of head and neck. Pain over hips and under shoulder blades when especially nervous. Subjective attention disorder. Gastric upsets. Tenderness over gall bladder. (Developed before examination was completed.) Acute attacks of gallstone colic with jaundice, clay stools, etc.

Discussion: This patient gave a commonplace history: Her nervousness first developed during a period when she suspected that her husband was disloyal. Then came her infection with gonorrhea by her faithless husband; a long, weary siege of pain; ever-present sense of grievance against the husband; costly operations which ended in complete pelvic evisceration; painful postoperative adhesions; baffled effort to secure relief from her discomforts; exhaustion of financial resources, and the hard times of 1920.

The patient improved as she gradually grasped the principles of mental hygiene applicable to her problems, but the attack of gallstone colic, jaundice, etc., interrupted her visits to my office, and she was not yet able to resume them when the survey came to an end.

CASE 127. FEMALE. THIRD DECADE

Persistent, Nonadjustive, Affective Reactions to (1) Baffling Physical Disabilities and Discomforts and (2) Inability to Satisfy Major Cravings.

Symptoms: Tachycardia. Arterial hypotension. Dyspnea on slight exertion. Palpitation. Precordial distress. Visceral uneasiness and occasional dull pain in abdomen. Constipation. Painful morning lassitude. Feels tired and weak most of the time. Easily upset. Feels that life is an empty, colorless, dreary thing, but is not depressively deluded in any way. Feels tense, restless and uneasy. Vague feelings of anxiety at times. No loss of weight and no objective symptoms of hyperthyroidism—the tachycardia is inconstant.

Physical Factors: Tonsillectomy, appendectomy, miscarriage and severe attack of influenza within period of one year preceding development of nervous symptoms.

Discussion: She had been in competent medical hands, and had been advised that only her nervousness remained to be dealt with. Her history affords a striking example of the failure of psychopathology to supply internists with usable information concerning the management of a large group of nervous patients whose needs ought to be met by the family doctor.

This young woman had a naturally splendid physique, and had been raised on the plains, where she had spent a great deal of her time in the open, riding spirited horses and engaging in the activites of the plains-woman, who regards a house as merely a place for shelter at night or during inclement weather. After her marriage she removed to the city of my survey, where she lived in a closely built-up, uninteresting suburb. Her husband's enterprises, for which they had great expectations, kept him away from home a good deal, but for a time she was fairly happy in the prospect of an economic freedom which would enable them to establish themselves in some frontier country. The birth of her child added another source of satisfaction for two or three years. Then came the operations cited above, the miscarriage and the influenza. Her consequent physical impairment, the demands made by her home and her child, and her husband's persistent failure to attain his

financial objectives, gave her a sense of being caught in a trap. To feel less than abundantly well was an irksome experience; and as time failed to bring the financial success upon which her return to a life in the open was dependent, the longing for the old days became intolerably acute and persistent.

This type of patient usually responds very well to a formulation of personal problems which encourages the development of rational reactive habits in place of the nonrational, nonadjustive ones. She was first convinced that more hygienic reactive habits would remove the physical disabilities—that a large part of her present discomfort was due to her unhealthy modes of reaction to her problems. Then her unsatisfied cravings were discussed in terms of alternative values, and she was encouraged to define satisfactions which she might reasonably hope to bring into her life.

The absence of any serious habits of indirect responsiveness to her difficulties, and the resources contained in her naturally wholesome responsiveness to the events of life as they are currently unfolded, made the psychotherapeutic problem a fairly simple one.

CASE 128. MALE. FIFTH DECADE

Persistent, Nonadjustive, Affective Reaction to (1) Physical Discomforts and Disabilities and (2) Impairment of Advantage by Impersonal Agency.

Symptoms: Bronchial asthma. Argyll-Robertson pupils. Absent tendon reflexes. History of lightning pains, but this symptom had been in abeyance for three years. Negative serologic findings. Malnutrition. Gastric indigestion. Constipation. Tense, nervous, worried and restless.

Physical Factors: Syphilis. Tabes. Bronchial asthma.

Discussion: The patient came to my office requesting relief from nervousness, and at once disclosed his chief worry by cursing the physician who has told him that he had tabes. Physical examination confirmed this diagnosis, and it was apparent from the patient's history that vigorous and efficient treatment had arrested the disease. The patient attributed to rheumatism the shooting pains, which were no longer in evidence, but which had been severe before he was treated. He was evidently convinced that he had had tabes, but was unwilling to admit it, and was unable to make a

comfortable adjustment to the situation. His asthma was of long standing, and he had begun to revolt against its discomforts and disabilities.

Injections of adrenalin mitigated the asthmatic paroxysms, and a regulation of his habits as to diet, rest, exercise and the use of tobacco enabled him to gain weight rapidly. After his confidence had been gained he was willing to face the tabes problem, and to adopt a rational reactive habit with reference to it. It has been my experience that tabes usually carries with it an increment of secondary nervousness which can be removed by teaching the patient to abandon nonrational, nonadjustive habits of reaction to the menace of this disease.

CASE 129. FEMALE. FOURTH DECADE

Persistent, Nonadjustive, Affective Reaction to Baffled Major Cravings and Unrelieved Physical Discomforts.

Symptoms: Irregular menstruation. Hot flashes. Constipation. Morning lassitude. Always tired. Tense, nervous, uneasy and restless.

Physical Factors: Menopause.

Discussion: This farmer's wife of thirty-nine had long been neurasthenic in reaction to the dreary, laborious, unsatisfying life which she was compelled to live on the farm, and with the advent of the menopause, with its many unrelieved discomforts, her nervous condition became very burdensome. Some improvement was obtained by enabling her to reestimate her situation in terms of rational reactive values.

CASE 130. FEMALE. FOURTH DECADE

Persistent, Nonadjustive, Affective Reactions to Baffled Major Cravings and Physical Disabilities and Discomforts.

Symptoms: Dysmenorrhea. Prolapsus uteri. Pain and discomfort incident to these conditions. Morning lassitude. Tired most of the time. Tense, nervous, restless and uneasy. Headaches. Sensation of something crawling and stinging her neck. Constipated. Feels acutely discontented, baffled and homesick for conditions which preceded her widowhood.

Physical Factors: Prolapsus uteri.

Discussion: Her husband's death had left her to manage the home farm with help of costly, inadequate hired men, and she was physically unequal to the hard work which this involved. Her discomforts seemed endless, and her longing for the better days of the past intolerable. She was advised to move to town and was referred to a surgeon for treatment of the prolapsus.

CASE 131. FEMALE. SIXTH DECADE

Persistent, Nonadjustive, Affective Reaction to Physical Disability and Baffled Major Cravings.

Symptoms: Residual symptoms of left hemiplegia which followed a stroke thirteen years ago. Can walk and use paralyzed arm fairly well, but speech is a little mumbling and there is some difficulty in finding the right words to express herself. Systolic pressure 220. Negative serologic findings. Some vertigo. Constipated. There is no significant mental defect, but patient is nervous, restless, depressed and unable to make a tolerable adjustment to the lonely situation in which she finds herself after the loss of husband and aunt.

Physical Factors: Arteriosclerosis. Hemiplegia.

Discussion: The patient lost her husband three years ago, and her only surviving near relative, an aunt, recently died. She consulted me for relief from the secondary nervous symptoms. A better adjustment to her loneliness and physical handicap was effected after several visits.

CASE 132. FEMALE. SIXTH DECADE

Persistent, Nonadjustive, Affective Reaction to (1) Baffled Major Cravings and (2) Physical Discomforts and Disabilities.

Symptoms: Morning lassitude so marked that the patient does not bother to eat breakfast. Tired all the time. Very tense, nervous, restless and uneasy. Legs ache. Constipated. Eyes feel strained. Is so dizzy for days at a time that she is compelled to remain in bed.

Physical Factors: Influenza. Uncorrected astigmatism

Discussion: The patient was left a widow at twenty-eight with two young children and no funds. She fought a long, hard struggle against poverty, handicapped all the while by a pelvic disorder (nature unknown) for which a panhysterectomy was done at forty-one. At forty-eight she had a severe attack of influenza, after which her children, who were now self-supporting, insisted that she give up work and live with the married daughter. She agreed to do this, and has been dependent on the daughter ever since. She passed from convalescence from the influenza into a "nervous breakdown" and has been a nervous invalid ever since.

Her daughter and son-in-law have their own interests and preoccupations, and in spite of a really generous and kindly attitude toward the patient, they cannot conceal from her the fact that she is a burden to them. She longs for her former economic independence, and when I last had word of her was still revolting against her inability to find some way of supporting herself. During a part of the time when she was under my observation she did some work as a solicitor, and until she had exhausted the possibilities for profit contained in the territory assigned to her she was relatively free from nervous symptoms. I was never able to make this woman understand that a more patient and rational attitude toward her enforced economic dependence was essential to her recovery to a degree which would permit her to find and accept steadily remunerative employment.

The vertigo caused her physicians a good deal of perplexity. The ophthalmologist assured us that she was fitted with the proper lenses for the correction of her astigmatism, and I could find no evidence of brain tumor. Finally, astigmatism in the vertical axes of both eyes was discovered, and with the proper change of lenses this symptom disappeared.

CASE 133. FEMALE. SIXTH DECADE

Persistent, Nonadjustive, Affective Reaction to (1) Threatened Impairment of Advantages by Impersonal Agencies and (2) Physical Discomforts and Disabilities.

Symptoms: No menstruation for six months. Hot flashes. Freakish swellings of feet, hands and face (neither of the angioneurotic type nor due to renal dysfunction). Attacks of burning

tongue, gastric distress, nausea and vomiting (negative report from analysis of gastric contents). Much current anxiety, attention to symptoms and fear of death.

Physical Factors: Menopause.

Discussion: A suggestible, temperamental woman of fifty-four. She had been told that women often die in the menopause, that she might have gastric ulcer or gastric carcinoma, etc. The importance of substituting rational for infrarational reactive habits was explained to her, and the first step to take in this direction, she was told, was to submit to an adequate physical survey. After such possibilities as nephritis, gastric ulcer and gastric carcinoma were excluded she was assured that the menopause is never in itself, a lethal thing. She must react to her discomforts as to problems for her physicians' consideration, etc. The anxiety, the fear of death and the gastric symptoms disappeared, and she adopted a quite philosophical attitude toward the residual menopause symptoms.

CASE 134. MALE. SIXTH DECADE

Nonadjustive Fear and Inferiority Reactions. Persistent, Nonadjustive Reaction to Inability to Satisfy Major Cravings.

Symptoms: Dazed, perplexed and frightened excepting in a horse's stall, which was his only home, or in a physician's office. Vague persecutory delusions. Intolerable longing for former comforts and security. Malnutrition.

Physical Factors: General physical debility, due to lack of adequate food, shelter and raiment.

Discussion: This patient, a widower of fifty-seven, had been a farm hand all his adult life until his wife died, three years before he came under observation. He had lived comfortably and contentedly on the farm, where his employer supplied him with a house, most of the essential foodstuffs and a small wage, and where there was no competition. His employer lived in town, and the patient adequately performed the laborious but simple tasks which were assigned to him. His wife cooked and kept house for him, took care of the small farm dairy, bred and cared for the poultry and, in general, made it possible for this timid, inadequate person

to pass muster as a useful, self-supporting farm hand whose services were prized by the farm owner.

After the patient's wife died he was unable to keep house for himself, unable to care for the dairy and the poultry, and even unable to direct his own activities as a laborer in the fields. He drifted to town and attached himself to a livery stable, but proved to be too muddled to be worth a wage in any capacity. He was teased and bullied by boys and loafers, and rejected as a half-wit by farmers in search of help. His longing for the wife who had been his cook, housekeeper, directing intelligence and mother as well as his mate added to an already unhealthy mental situation. The horse stall, where he had the companionship of a friendly creature and a retreat from the unkind, bewildering world, became his home. He would sally forth to beg food, and if his fear became too intolerable he would seek the protection of a physician's office. In his stall or in a physician's office he could talk freely and with coherence; but on the streets he was a wild-eyed, shrinking, incoherent creature. He resisted the efforts of the county authorities to send him to the almshouse, and was tolerated as a harmless wreck.

His case is interesting as a caricature of the type of neurotic woman who reacts to her own sense of personal inadequacy by withdrawing from everything suggestive of competition and taking refuge in behavior indicative of helplessness and a need of special consideration by her world. The woman who takes to her bed and falls into a panic in response to the kindliest efforts to terminate her bed-invalidism will often be found to be reacting to a similar sense of inability to meet reality as it is presented to her when she is up and about. This patient's plight engaged the sympathy of many of us who wished to help him, but he clung to his horse stall in a panic of self-insufficiency.

CASE 135. FEMALE. SIXTH DECADE

Persistent, Nonadjustive, Physical and Psychical Reaction to a Critical Disaster.

Symptoms: Stubborn constipation. Spastic colitis. Pulse rapid and intermittent. Systolic pressure 97. Unable to walk. Face

bears a rigid, frozen expression. She is unable to discuss anything but the distressing experiences which initiated her illness.

Physical Factors: Spastic colitis. Tachycardia and cardiac arhythmia without evidences of hyperthyroidism.

Discussion: This patient's husband died when she was forty-two, and left her sufficient means to enable her to live in modest luxury. At forty-four she was living in a hotel, and kept there a box of negotiable securities and cash which represented the greater part of her small fortune. The hotel burned, and with it these valuables. She was in great peril, and was rescued with difficulty. After she was taken to the hospital she lay rigid and unable to move for eight weeks. This condition subsided, and the symptoms which I found when she came under observation ten years later were present ever afterward. No progress was made with this case, and she died a few months after the survey terminated.

CASE 136. FEMALE. SIXTH DECADE

Persistent, Nonadjustive, Affective Reaction to Baffling Personal Problems.

Symptoms: Lies awake most of the night worrying about her troubles in spite of her efforts to divert attention to other things. Is very tense and nervous. Weeps easily. Anorexia. Flatulency. Morning lassitude. Pulse persistently 90. Systolic pressure 160.

Physical Factors: None identified.

Discussion: Last menstruation six years before she came under observation. For several years she worried a good deal about a typical acroparesthesia, which was never correctly diagnosed. This gradually faded, and she regained her earlier good health and equanimity.

Five months before she came under observation her nephew, whom she had brought up almost as her own son, committed forgery, and was saved from prosecution by her husband, who replaced the money thus obtained. There followed three more forgeries within as many months, and each time her husband made them good. The nephew was not related to her husband by blood, and it caused her great distress to feel that he might ultimately

impoverish them. The forger had hitherto been a steady, decent young man, and she could not account for his sudden addiction to gambling, drinking and other costly vices.

The patient and her husband stood together without a shadow of dissension in dealing with the situation, but she could not divert her mind from the possibility that she must either permit her beloved nephew to go to prison for his crimes or stand by and see her husband beggar himself. She could not make her feelings sanction any course of action which seemed to be required to meet the situation. Her husband threw all considerations to the wind but his wife's happiness, and displayed, in general, a most unusual generosity toward her.

With such fine people to deal with it was not difficult to effect a solution of their problem. They agreed that their affections were too much involved to enable them to see things clearly, and permitted me to estimate the situation for them in terms of what ought to be done about it. We decided that if the young man's strange lapse from decent behavior was due to a mental disorder (such as dementia precox or general paralysis) we would have him locked up as mentally incompetent. If it appeared that alcoholism was responsible there was a state law which would enable us to have him committed. If we found that he was merely a vicious person the banks would be warned that if they accepted any more of his forged notes (he was in the habit of giving his personal note and forging his uncle's indorsement thereto) they must prosecute him and lose their money. My examination of the nephew followed, and the results are given elsewhere (*Case 139*).

The patient responded satisfactorily to this method of dealing with her problems.

CASE 137. MALE. SIXTH DECADE

A case of unexplained syncopal attacks which I could not regard as due, in any essential way, to adjustive dysfunction. The patient hoped that we might find confirmation of the internists' suspicions that his was merely a case of nervousness, and cooperated with honesty and intelligence during the examination.

CASE 138. MALE. FOURTH DECADE. NO DIAGNOSIS

Symptoms: Morning nausea and vomiting without pain. Anorexia. Morning lassitude. Constipation. Mood even and cheerful. Symptoms have been present for about four weeks.

Physical Factors: None identified.

Discussion: The patient was carefully examined with reference to the possibility that his symptoms might be indirect reactions secondary to inhibition of direct responsiveness to unallowable urges. He gave a wholly insignificant account of himself, and listened respectfully but without comment when I was finally driven to a premature explanation of the behavioristic mechanisms usually involved in producing such symptoms as his. At the end of my talk (this was his first visit) he thanked me cordially for a helpful talk, paid his fee and agreed to report on his return from a trip which would involve an absence of three months. At the expiration of this time he reappeared at my office, effusively grateful, and assured me that I had effected a "complete and permanent cure." How I accomplished this and what was responsible for his symptoms remained a mystery to me ever afterward.

CASE 139. MALE. FOURTH DECADE

Undiagnosed Adjustive Dysfunctions.

Discussion: This is the patient previously referred to (see *Case 136*) as the young man whose misconduct was responsible for his aunt's nervousness. Until he reached his thirty-third year he was, apparently, a steady, industrious, honest young man. He was married, and until about six months before he came under observation his mode of life made it possible for him to meet his financial obligations without embarrassment. Then came the surprising lapse from honesty and decent behavior. The four notes to which he forged his uncle's indorsements within a few months were readily negotiable, and he squandered the money at cards. A normal man would have known that early detection was inescapable, since his uncle had intimate business relations with the bankers to whom the patient took the forged notes. The reproaches of his family were reported

to have elicited neither expressions of contrition nor efforts to excuse himself. He would merely promise not to offend again.

On examination he was found to be rather dull, unresponsive to the seriousness of his situation and wholly inaccessible to efforts to explore his underlying attitude. He would politely agree that he had done wrong, and in a rather apathetic way volunteer the information that he had no intention of repeating his forgeries. He could be induced to discuss matters with which he and I had a common familiarity, and at such times he made a fairly normal impression. His wife and his brother assured me that but for the forgeries, the gambling and the insufficiency of his reactions to the reproaches of his family, they would regard him as in no way unlike his usual self. He did not object to coming to my office, and displayed no resentment toward me when I urged him to explain himself.

Dementia precox and general paralysis were considered as possible diagnoses. There was only his lapse from previous good behavior with, of course, his unresponsiveness to the situation, to support a diagnosis of dementia precox. Serologic and neurologic findings were negative, hence the impossibility of making a positive diagnosis of general paralysis. There was no evidence of alcoholism. If he had been merely vicious and had weakly yielded to a desire to obtain money with which to continue his gambling, it is likely that there would have been some sort of overt response to the difficulties in which he was placed by his addiction to this vice. No further developments had occurred to throw light upon this case when a report was received several months later.

CASE 140. MALE. FIFTH DECADE

Reactions not typed.

Symptoms: Numb, sleepy sensations in hands and feet. "Queer," painless sensations which begin in the toes, travel upwards, spread laterally as they reach the anterior surface of the trunk, and terminate at the epigastrium. Feeling of weakness from the knees down. A dull ache which begins at the base of the occiput, travels forward and terminates in the eyes. Stooping causes cutting pain in the back. Nasty, acid taste in the mouth. Constipated.

Physical Factors: None identified. Syphilis suspected.

Discussion: The above symptoms constituted a definite and but little varying syndrome which had recurred at intervals during a period of five years. They came irregularly, lasted from a few weeks to a few months, and were separated by periods of entire freedom from symptoms of any kind—such periods sometimes lasted six months.

He vigorously denied venereal infection, and was wholly inaccessible to questions concerning his personal problems. He freely submitted to the trivial operation involved in taking a specimen of blood to send to the state Wassermann laboratory, but when I told him that the report had come back negative as to syphilis he was much annoyed, declaring that had he known that I suspected syphilis in his case he would have chosen another physician. He grudgingly admitted that he had had a penile ulcer twenty-five years before he came to me, and that I had brought to an issue a worry which he had chosen to ignore long ago. His flare of resentment, which terminated his visits to my office, was in striking contrast to his previously eager cooperation with my efforts to account for his symptoms.

CASE 141. FEMALE. THIRD DECADE

Mistaken Diagnosis.

Discussion: A young married woman was referred to me as a case of nervous indigestion. While she was undergoing the usual examination one of my friends, an internist, rapped at my consulting room door and asked to see me a moment. I asked him to do a pelvic examination of the patient because I wished to complete my records without putting her to the bother and expense of going to another medical office for that purpose. He found that she was pregnant, and subsequent events verified his statement that her "nervous indigestion" was the nausea of pregnancy, with attendant gastric discomforts.

CASE 142. FEMALE. FOURTH DECADE

Myocarditis, the symptoms of which were mistakably ascribed to a "cardiac neurosis."

CASE 143. MALE. THIRD DECADE

Overintense Direct Responsiveness to Opportunities to Make Good.

Tachycardia. Dyspnea on slight exertion. Palpitation. Vertigo. Presystolic murmur at apex. Colitis. Cathartic constipation, with episodes of diarrhea which he did not attribute to unusual doses of cathartics. Morning nausea. Fine tremor of hands. Scalp paresthesia. Frequent attacks of urticaria. Headache. Sense of inner tension, but tendency toward somnolence when not stimulated by the demands of his position, which he filled to the entire satisfaction of his employer and with an easy self-confidence. It was clear that his promotion has kindled an excessively zealous ambition to make good in a large way. He worked under high pressure all the time, and used tobacco excessively to relieve a painful sense of overtension. I could find no evidence of an underlying sense of inadequacy, and his sexual life (he was happily married) seemed to be quite normal. Plans were made to have him go to a larger medical center for a basal metabolism test, but before he could arrange to leave his work for that purpose a reduction in his daily supply of tobacco and more temperate habits as to work resulted in such a marked improvement that a cure was effected without interrupting his work.

Cases of this kind, in which no hint of indirect responsiveness to endogenous or exogenous stimuli are apparent, have been rarely encountered in my experience.

CASE 144. MALE. FOURTH DECADE

A drug addict who discontinued his visits when he found that his obviously untruthful account of his past history and present symptoms would not secure him a prescription for the opiates which he craved.

CASE 145. MALE. THIRD DECADE

Dementia precox.

Symptoms: Sits about "grinning to himself," idle, uninterested in his environment and fumbling his genitalia with his right hand,

which is thrust deeply into his trousers' pocket. Masturbates a good deal in bed. Has outbursts of unexplained anger which are usually directed against his mother. When engaged in conversation shows no spontaneity, but will answer impersonal questions relevantly and even display some interest in discussions of athletic sports. In the midst of such conversations he is apt to burst into laughter, and if pressed to explain this apparent mirth he will either remain silent or complain that he is compelled to laugh by obscene thoughts which "they" put into his mind. He will not say what these thoughts are other than that they are obscene, and that they are projected into his mind by hostile agencies.

Physical Factors: None identified.

Discussion: About one year before the patient came under my observation he was in college near graduation. It was noticed that he was failing in his studies, avoiding his friends and displaying an unnatural indifference to his usual interests and activities. He was still somewhat accessible at that time, so that it was possible for his family physician to learn, by questioning him, that he was masturbating excessively, and that he was fearful lest his friends and his family find him out. He failed to graduate, and was sent to a sanitarium (June, 1920).

He had been ill about a year when I first saw him, and was too far advanced in his dementia precox to be accessible. His family could throw no important light upon the case. He had always been regarded as a self-contained, seclusive boy, but was popular, and took a very strenuous part in athletics. Prolonged examinations of the patient's father, mother and brother disclosed nothing significant as to his earlier reactive relationship to the family, to his own urges, etc.

He acquiesced cheerfully in our plans to take him to the state hospital, and whenever any of us visited him after his commitment he expressed contentment with his life there. He was always found sitting in one of the wards of that badly overcrowded, underofficered institution, idle, uninterested and increasingly detached from reality. Visits from members of his family or from friends who had once been close to him were reacted to as though they were interruptions of pleasant times which could be had by simply sitting about the asylum ward, silent and unoccupied.

The internist ought to experience no difficulty in recognizing the earlier symptoms of a trend toward the development of dementia precox in the average case. Almost any standard textbook of neuropsychiatry will be found to contain sufficient information for diagnostic purposes. An internist who does not choose to concern himself about diseases of the eye is nevertheless under an acknowledged obligation to have a sufficient diagnostic familiarity with such diseases to enable him to suspect the nature of a beginning iritis or glaucoma so that he may refer his patient to an opthalmologist before irretrievable damage is done. A similar obligation exists for the internist in his dealings with early dementia precox cases. This group of mental disorders requires for its therapeutic management a more extensive knowledge than the internist may fairly be supposed to possess, but it is often only the internist who sees the dementia precox patient in time to prevent a hopeless disintegration of adjustive functions. If such a patient can be placed in the care of a competent neuropsychiatrist before the psychosis is too far advanced there is always a chance of preventing more serious developments. Meyer[11] has recently called attention to the fact that the prognosis of dementia precox is far more importantly determined by the adequacy of its therapeutic management than is generally assumed. His view of the matter is especially significant as coming from an institutional psychopathologist who receives most of his cases after much valuable time has been lost. My own experience since I gave up institutional for private practice about fifteen years ago has been of a kind to afford me contacts with this disease in its earlier manifestations, and it has given me a by no means gloomy view of the outlook for the dementia precox patient who is given early treatment. *Case 145* was properly diagnosed by the family physician and at once sent to an expensive sanitarium, but its medical officers knew only the custodial part of the therapeutics of neuropsychiatry—a situation which obtains in perhaps the majority of private institutions for the insane.

CASE 146. MALE. SECOND DECADE

Acute Confusional Psychosis.

Symptoms: The patient suddenly became confused shortly after having been taken to jail on a false charge of theft. He was excited,

thought that a college fraternity had taken this method of initiating him, resisted the jail authorities, removed his clothing, was noisy and talked incoherently.

Physical Factors: None.

Discussion: This seventeen-year-old boy had gone from his home to a large city, and was living in a boarding house. A watch was stolen from one of the boarders, and he was unjustly suspected as the thief. Before he had any intimation that he was under suspicion a plain-clothes officer seized him and took him to jail without explanation. The patient was not permitted to communicate with his family, and the sudden transition from his usual status as a boy who knew nothing of the brutal, arbitrary ways of city police to that of a jailed criminal who was cursed and bullied when he demanded an explanation for his treatment resulted in the development of the above-described symptoms. His family located him several days after his arrest and removed him to a sanitarium, to which I was summoned to study his case. When I first saw him he was already oriented and had corrected his misinterpretations. There remained a shallow exhilaration and facetiousness, some flippancy of speech and a tendency to play silly pranks, but there was neither unnatural loquacity nor unwillingness to talk. He did not complain of a sense of being influenced by external agencies, his speech was not of the "scattered" dementia-precox type and his affective reactions were suggestive of nothing more serious than a lowered threshold of emotional responsiveness. In short, it appeared that he was recovering from an acutely precipitated confusional psychosis. At his age, however, the possibility of dementia precox is always in ones' mind, hence he was sent to the Bureau of Juvenile research (his family could not afford to keep him longer at the sanitarium). He was discharged after a few days at the Bureau and was reported to have made a complete recovery.

CASE 147. FEMALE. FOURTH DECADE

Acute Confusional Psychosis.

This directly followed operation for uterine fibroid. There had been about six months of severe metrorrhagia.

CASE 148. FEMALE. FOURTH DECADE

Postoperative Delirium.

The patient had just undergone a thyroidectomy. There was a very thin pulse, a systolic pressure of 80 and cold extremities in addition to the delirium.

CASE 149. FEMALE. FIFTH DECADE

Paranoia.

An old, inaccessible case. The examiner was unable to obtain findings which would be of practical value in a textbook of this kind.

CASE 150. FEMALE. FOURTH DECADE

Cerebral Syphilis.

This was a case of cerebral syphilis which was referred to me with a diagnosis of melancholia. When the patient was left to herself she was dull, heavy and somnolent. Under stimulation she was depressed, confused and complained of constant, heavy headache. These symptoms had misled the family physician, who mistook the mental hebetude and slowness of movement for the psychomotor retardation of a manic-depressive psychosis of the depressed phase.

CASE 151. MALE. FOURTH DECADE

General Paralysis. (Paresis.)

This patient was depressed, and entertained many absurd delusions to the effect that he was the victim of outlandish physical ailments. He consulted a laryngologist for relief from an imaginary closure of the larynx, and was promptly and correctly diagnosed and sent to me. A less broadly trained man than the laryngologist might easily have mistaken this whining, hypochondriacal patient for a case of functional nervousness.

CASE 152. MALE. FIFTH DECADE

General Paralysis. (Paresis.)

This was another case of paresis with hypochondriacal depression. He was sent to me with a diagnosis of neurasthenia, although he

presented gross physical signs of paresis and had a positive Wassermann reaction.

CASE 153. MALE. FIFTH DECADE

General Paralysis. (Paresis.)

This case had been previously diagnosed "alcoholic insanity," "acute mania" and "paranoia."

CASE 154. FEMALE. SIXTH DECADE

Undiagnosed. Probably General Paralysis.

CASE 155. FEMALE. SEVENTH DECADE

Psychosis Attributable to Cerebral Arteriosclerosis.

CASE 156. FEMALE. SEVENTH DECADE

Motor Aphasia. Cerebral Hemorrhage. Arteriosclerosis.

Symptoms: The patient was motoring with her family when she suddenly began to babble. She was taken at once to the hospital, where it was noticed that there was some weakness of the right arm and leg. Systolic pressure 220. Right ankle clonus, exaggeration of right patellar tendon reflex, etc. She babbled in an apparent attempt to communicate with those about her, and gestured frantically when they failed to guess her meaning.

Physical Factors: Arteriosclerosis. Cerebral hemorrhage.

Discussion: This case is presented as exemplifying the possibility of mistaking a motor aphasia for acute delirium or some form of insanity. This patient was diagnosed as suffering from some form of acute delirium, but I found that she was well oriented, and much distressed because the family, the attending physicians and the nurses talked in her presence as though she were unable to comprehend what they said. It was easy to demonstrate to them that she was quite clear, and that a little ingenuity would enable them to understand her.

CASE 157. FEMALE. EIGHTH DECADE

Cerebral Arteriosclerosis.

Symptoms: For several months she has felt dizzy a good deal, has had fainting attacks and has steadily lost weight. There is a good deal of headache, and a sense of pressure in the right frontal region. Her memory for recent events is poor. She is easily fatigued and gets short of breath on slight exertion. Aortic second sound accentuated. Slight albuminuria. Systolic pressure 180.

Physical Factors: Arteriosclerosis with general senile changes.

Discussion: In spite of her obviously bad physical condition this woman of seventy-six accepted her discomforts quite philosophically as due to the strain of caring for "an old lady" who required much attention. The patient stated, quite simply, that she could not take a rest just now because her employer, who was in her hundredth year, could not spare her.

The most significant feature of the case was the patient's entire absence of secondary nervousness. She had so long regarded her employer as a really old person and herself as less than old that she did not suspect that her own symptoms meant anything more serious than passing fatigue. It was her conviction that she merely required a tonic to tide her over until a vacation could be taken.

CASE 158. FEMALE. FIRST DECADE

Undiagnosed Symptoms Suggestive of Organic Cerebral Changes.

CASE 159. MALE. NINTH DECADE

Senile Dementia.

CASE 160. MALE. EIGHTH DECADE

Senile Dementia.

CASE 161. MALE. EIGHTH DECADE

Senile Dementia.

CASE 162. FEMALE. THIRD DECADE

Imbecility.

CASE 163. MALE. THIRD DECADE

Imbecility. Epilepsy.

Condition dated from severe cranial trauma sustained during infancy.

CASE 164. FEMALE. FOURTH DECADE

Moron.

A married moron of the restless, excitable, incorrigible type. The only effective solution of the problem seemed to be confinement within an institution, but the husband and I were unable to effect this legally. They were Hungarians, and it was difficult to demonstrate to a jury her need of institutional care. She was so helpless after the Court awarded her a divorce that the husband took her back (without repeating the marriage ceremony) and got along somehow by beating her into submission.

CASE 165. FEMALE. FOURTH DECADE

Moron.

Another case in which no legal solution could be found for the problems growing out of the troublesome behavior of a moron.

CASE 166. MALE. SIXTH DECADE

Brain Tumor.

Symptoms: In September, 1920, it was observed that this patient was growing increasingly nervous and irritable. He was boastful, easily excited and inclined to fly into a rage without adequate provocation. During this period he distressed his family by lapses from his usual courtesy to their house guests. About a month later he talked a great deal about a vision which he claimed to have had; his dead mother had appeared to him and given him information about religious matters. There was a steadily increasing impair-

ment of judgment until February, 1920, when matters were brought to an issue one day when he drove a car down the wrong side of a busy street and refused to acknowledge that such behavior was both dangerous and illegal. He was placed in care of a nurse, and there began a series of consultations, none of which resulted in a correct diagnosis.

He came under my observation in March, at a time when several days of mild delirium and marked physical prostration might have been due to the administration of excessive doses of hyoscine. After his recovery from the delirium he was euphoric, boastful and at times disoriented. He claimed that he was one of twelve men who, alone, understood Einstein's theory; that he had possession of property which we knew he did not have; that he had supernatural powers, a special relation to God, profound religious knowledge, etc.

Headache was denied, although it was learned later that during September and October, 1920, he had occasionally complained of this symptom. The tendon reflexes were lost, there was a considerable degree of muscular weakness and incoordination, the speech was a little slurring, his memory was appreciably impaired and from the time when he came under my observation until his death there was a growing confusion. An attack of acute anterior poliomyelitis during childhood had left various residual impairments, hence it was difficult to interpret the neurologic findings as a whole. The ophthalmologists reported normal ocular fundi. The internists found no evidence of arteriosclerosis. Wassermann reaction was negative. A specimen of spinal fluid was obtained after much difficulty, but this was lost on its way to the laboratory. In spite of the negative Wassermann I made a tentative diagnosis of general paralysis, and a neurologist who was summoned in consultation agreed with me.

Death occurred about two months after he came under observation, and the autopsy revealed a large sarcoma in the right temporal region.

CASE 167. FEMALE. SIXTH DECADE

Epilepsy.

This was a case of twenty-five or thirty years standing. There was the usual favorable response to luminal therapy, and I left

before the usual reduction of the efficacy of this drug had begun to appear. It is my experience that luminal is apt to give brilliant results in epilepsy for a few months or even a year, after which it is disappointing.

CASE 168. FEMALE. FIRST DECADE

Convulsions. Left Hemiplegia.

The hemiplegia developed during a paroxysm of coughing—the patient had whooping cough. The convulsions were clearly traceable to the damage thus done.

CASE 169. FEMALE. FIFTH DECADE

Syphilitic Epilepsy.

This case was of eight years' duration. It had been diagnosed hysteria, and the presence of syphilis had never been suspected.

CASE 170. FEMALE. SECOND DECADE

Migraine.

Removal of bad tonsils and the institution of a more hygienic mode of life were followed by disappearance of the attacks.

CASE 171. MALE. SEVENTH DECADE

Neuritis.

My records contain reference to the fact that this patient disclosed no secondary nervousness in reaction to the pain and disability of his neuritis.

CASE 172. MALE. THIRD DECADE

Sciatica.

The patient had gonorrhea about seven years before he came under observation, but was sure that it had been cured within a few months after it was contracted. When I first saw him he had been unable to work for about two years. A residual prostatic infection was disclosed and treated, after which his sciatica disappeared and he returned to work.

CASE 173. FEMALE. FOURTH DECADE

Angioneurotic Edema.

Careful study of this case disclosed no significant adjustive dysfunctions.

CASE 174. MALE. SECOND DECADE

Angioneurotic Edema.

No significant adjusive dysfunctions disclosed.

CASE 175. FEMALE. THIRD DECADE

Hyperthyroidism.

Symptoms: Tachycardia. Dyspnea on exertion. Fine tremor of fingers. Slight exophthalmos. Tenderness over thyroid. Easily upset. Loss of weight. Feels as though she had a lump in her stomach. Constipated.

Physical Factors: Hyperthyroidism.

Discussion: This was a recently married girl of twenty-three, both of whose parents were physically frail and who had always been, herself, rather frail. She seemed to be a well-balanced, cheerful, contented young person, and no pathologic reactive habits of consequence were disclosed under conditions which rendered a satisfactory examination possible. It was found that she took great delight in having a home of her own, and that this, and a desire to save money had induced her to plunge too energetically into her duties as a housekeeper. Before her marriage her parents had always limited her activities to what she could do without undue fatigue.

The vagaries of the speculative endocrinologists make one wary of his own guesses, hence it is with some timidity that I make reference to the following fact: in the region of my survey, where the incidence of symptomless goiter is comparatively high, it is a lay tradition that marriage is apt to be followed by symptoms of hyperthyroidism in persons who have previously had some enlargement of the gland. This patient's mother stated that her daughter had had an enlarged thyroid from about her thirteenth year. Her

history showed that the symptoms of hyperthyroidism did not appear until some time after marriage. Her husband had sedentary occupation, and his capacity for performing the marital act and her own responsiveness thereto had resulted in its too frequent occurrence.

She was induced to lower the level of her activities, to take a forenoon and an afternoon rest and to reduce the frequency of the marital act. Under this regime her symptoms disappeared, and she gained weight rapidly. Several months after she was discharged an increase of activity incident to moving into a new house was followed by a recurrence of symptoms. Recovery again followed institution of a more hygienic regime.

CASE 176. FEMALE. FIFTH DECADE

Hyperthyroidism.

A case in which a symptomless goiter of many years' duration became an exophthalmic goiter during the menopause. There was no evidence of significant adjustive dysfunction in this case.

CASE 177. FEMALE. FOURTH DECADE

Hyperthyroidism.

No significant adjustive dysfunctions.

CASE 178. FEMALE. THIRD DECADE

Hyperthyroidism.

No significant adjustive dysfunctions.

CASE 179

Hyperthyroidism.

No significant adjustive dysfunctions.

CASE 180. FEMALE. SIXTH DECADE

Hyperthyroidism.

No significant adjustive dysfunctions.

CASE 181. FEMALE. SECOND DECADE

Hyperthyroidism.

This young girl had a symptomless goiter from her eighth year, but there were no symptoms of hyperthyroidism until her menstruation began at thirteen.

CASE 182. FEMALE. FOURTH DECADE

Hyperthyroidism.

No significant adjustive dysfunctions.

CASE 183. FEMALE. SIXTH DECADE

Hyperthyroidism.

This patient had a simple goiter for many years, and at the menopause a definite Graves' syndrome appeared.

CASE 184. FEMALE. THIRD DECADE

Hyperthyroidism.

On my first examination it appeared that this patient had had a very serious exophthalmic goiter for several months, during which time she was treated by an osteopath who made the stereotyped diagnosis of articular maladjustment. He ought, fairly, to have been required to see her through to the undertaker's place of business, but the internist who summoned me in consultation after the osteopath had been discharged felt an obligation to save this young girl's life if it were possible to do so. Her hyperthyroidism had so severely affected her heart that she was almost moribund when we first saw her. He was gradually getting her in condition for a thyroidectomy when the survey terminated.

CASE 185. FEMALE. SIXTH DECADE

Hyperthyroidism.

This patient's hyperthyroidism appeared during the menopause and directly after an accident.

The above-described cases of hyperthyroidism were carefully studied with reference to the possibility that persistent, nonadjustive affective reactions of the emergency type but of low intensity might have been factors in the development of this disease. Nervousness is, of course, one of the important symptoms of hyperthyroidism, hence the danger of confusing the adjustive difficulties of these cases with those of patients who owe their nervousness primarily to maladaptive habits of response to environmental conditions and inwardly arising urges which call for adjustive activities of the organism as a whole. A patient with an enlarged thyroid, exophthalmos and tachycardia is very apt to disclose impairment of capacity for meeting the currently arising situations of her daily life, but I have not felt justified in regarding such impairment of adjustive capacity as significant for an explanation of the development of an hyperthyroidism in the majority of my cases. The statement that a case presented "no significant adjustive dysfunctions," whenever it occurs in the text, is meant to imply that the patient's nervousness appeared to be merely symptomatic of her hyperthyroidism and due neither to poor adjustments to the discomforts and disabilities of the disease itself nor to bad habits of responding to other types of personal problems. The present chapter is, essentially, a report of research and not a defense of any theoretical position whatsoever, hence the importance of including in this list all patients who came to me complaining of nervous symptoms or who were sent to me because they were regarded as nervous cases by their physicians.

CASE 186. MALE. FOURTH DECADE

Postoperative Hypothyroidism.

Thyroidectomy had been performed on this patient about a year before he came under my observation. His pulse rate ranged from 40 to 60, his systolic pressure was 105, his extremities were cold under all conditions and he had alarming syncopal attacks. These symptoms did not appear until nearly five months after the operation.

CASE 187. MALE. EIGHTH DECADE

Paralysis Agitans.

The patient had made a fairly good adjustment to his disability when I first saw him. Hyoscine gave brilliant results for a few weeks, after which it gradually lost its efficacy.

CASE 188. MALE. SEVENTH DECADE

Paralysis Agitans.

History and subsequent developments essentially similar to those of *Case 187.*

CASE 189. MALE. EIGHTH DECADE

Paralysis Agitans.

History and subsequent developments essentially similar to those of *Case 187.*

CASE 190. MALE. SIXTH DECADE

Paralysis Agitans sine Agitatione.

This patient was given hyoscine, calcium lactate, bromides and various preparations of parathyroid gland. None of these drugs proved to be of benefit excepting the hyoscine, which finally lost its efficacy. For a while we thought that he derived benefit from parathyroid preparations, but after some experimenting I decided that we were simply fooling ourselves by attributing to this drug benefits which were due to hyoscine and a more hygienic mode of life. Duboisine was wholly disappointing.

CASE 191. FEMALE. NINTH DECADE

Paralysis Agitans.

This old lady had gotten along comfortably with her not very severe paralysis agitans for many years, hence I declined to change her habitual mode of life or to give her drugs.

CASE 192. FEMALE. FOURTH DECADE

Locomotor Ataxia.

The case had been mistakenly diagnosed neurasthenia by the family physician. The patient did not even manifest significant secondary nervous reactions to the discomforts of her disease.

CASE 193. FEMALE. THIRD DECADE

Multiple Sclerosis.

Symptoms: A case of about ten years duration. Nystagmus. Intention tremor of upper extremities. Unable to walk. Incontinence of bowel and bladder. Vision of right eye almost *nil* and that of left eye seriously impaired. Hands and arms feel numb and awkward. Had almost constant headache for several years, but has had none during past two years. Mood so cheerful that, in the circumstances, it seems to be unnaturally euphoric. Mentality regarded normal by the family.

Physical Factors: Advanced multiple sclerosis.

Discussion: This case is of psychologic interest, as disclosing an unusually adequate adjustment to a difficult situation. The patient, a farmer's wife, was married at twenty-two, at which time she was already experiencing some difficulty in walking. She bore three children, two of whom were living and well. With the assistance of her elder child, a little girl of six years, this badly incapacitated woman performed the arduous household duties that fell to her lot. She cooked, washed dishes, washed and ironed the family laundry, swept the house, churned and cared for the butter, etc., managing all this by dragging herself about the floor, pulling herself upon chairs or boxes and using the little girl to fetch and carry. She and the family accepted all this as a matter of course, without complaint and with a philosophical acceptance of the situation. She was hopefully brought to me for treatment, but I was the only beneficiary of her visits.

CASE 194. FEMALE. SIXTH DECADE

Multiple Sclerosis.

There was no mental impairment, and the patient had made a good adjustment to her disabilities.

CASE 195. MALE. EIGHTH DECADE

Lateral Sclerosis.

This very pleasant old gentleman remained cheerful and profitably occupied in spite of a good deal of discomfort and disability. He had learned how to live with his lateral sclerosis.

CASE 196. MALE. SIXTH DECADE

Ménière's Disease.

The patient showed that he had made a good adjustment to the situation.

CASE 197. MALE. SIXTH DECADE

Bulbar Paralysis.

No significant secondary nervous reactions to the physical situation.

CASE 198. MALE. FOURTH DECADE

Parkinsonian Syndrome Secondary to Epidemic Polioencephalitis.

This patient had apparently recovered from his "sleeping sickness" when, several months later, he developed a Parkinsonian facies, posture, gait and tremor. There were also symptoms suggestive of bulbar lesions.

CASE 199. MALE. THIRD DECADE

Parkinsonian Syndrome Secondary to Epidemic Polioencephalitis.

History and condition essentially similar to that of *Case 198.*

CASE 200. FEMALE. FIFTH DECADE

Malingering.

A silly woman who sought to start an intrigue by feigning a most unconvincing collection of nervous symptoms. She was charged a stiff fee and treated with much formality—and never returned to my office.

CHAPTER III

SUMMARY OF THE SURVEY FINDINGS

1. **Value of the Survey for Statistical Purposes.** Most of the cases discussed in Chapter II are offered as having more or less value for the illustration of psychopathologic principles which I have adduced from my research work as a whole, and which are presented in the second part of this volume. Purely neurologic and neuropsychiatric cases were included with the so-called functional ones because I believe that my 1921 research fairly well illustrates the kind of clinical material with which the internist must deal in terms of what he knows about neurology and psychopathology. The foregoing chapter has, of course, only a limited statistical value; the specific determinants of nervousness in a Mississippi Valley town of 30,000 inhabitants and of the surrounding countryside may not closely parallel, either as to kind or distribution, those which one would encounter in large cities or in other parts of America. Patients from rural districts may be especially liable to develop nervousness in response to inability to satisfy their major cravings, and we must not lose sight of the fact that they often experience a good deal of baffling in their efforts to obtain satisfying diagnoses of physical disorders. I am quite sure that alcoholism and drug addiction are proportionately of much less frequent occurrence among farmers and villagers in the survey district than in the cities of the Pacific Coast.

One hundred and forty-five of the 200 cases of the survey seemed to owe their nervousness wholly or in part to maladaptive habits of response to personal problems and difficulties. Many of these 145 patients not only presented troublesome nervous symptoms which seemed to have been thus determined, but were suffering from actual physical disease of one sort or another. These cases were discussed in Chapter II from an essentially psychopathologic standpoint because I believe that nervousness secondary to baffling physical disabilities is very common, often unintelligently dealt with and in need of much more careful investigation than it has yet received. It not infrequently happens that a patient with a slowly progressive spinal lesion, a barely compensated myocardial

or endocardial impairment, a stubborn colitis or a crippling arthritis reduces his invalidism by more than half by finding comfort in Christian Science or the confident and blatantly defended diagnoses of pseudomedical cultists. Such a patient will usually be found to have been tricked into giving up a habit of persistently responding to his physical disability as to a baffling disadvantage—an emergency to be reacted to as a caged wild animal reacts to his imprisonment. Psychopathology offers principles which may be safely applied for the removal of increments of secondary nervousness in physically disabled persons, and the psychopathologist, in his capacity as a scientifically trained physician, is at least qualified to appreciate the importance of having physical disorders treated on their merits as physical disorders. Table I, which follows, has a statistical value of some importance, in my opinion, if for no other reason than that it discloses the frequency with which cases of persistent, nonadjustive affective reaction to physical disabilities were encountered during the survey.

The choice of terms for the designation of pathologic reaction-types in Table I was largely determined by my conviction that such terms ought to be closely descriptive of objectively evaluated facts of observation. Psychoanalysis has done much toward freeing psychopathology from disease-names which do not fit the facts; but its proponents have shown a disposition to bring forward schemes for classifying nervous disorders which are prematurely interpretative, too suggestive of slavish adherence to the logical implications of a central Freudian hypothesis and not sufficiently suggestive of a patient's willingness to accept limitations imposed by present gaps in our knowledge. A more satisfyingly schematic presentation of the contents of Table I would doubtless solve some of the problems involved in the construction of a tabular summary of diagnostic findings, and would thus eliminate some of its awkward features; but I have been unable to find any method for the construction of this table which would give it a nosologic orderliness without at the same time introducing undesirably speculative interpretations.

Many of the patients presented more than a single type of pathologic reaction, hence the sum obtained by adding together all the figures in the column headed *Number of patients who presented such reactions* considerably exceeds 145, which is the number of patients whose reactions are listed in Section *A* of Table I.

TABLE I

Distribution of Cases According to Diagnosis

A. Cases Presenting Pathologic Types of Reaction to Stimulations Which Evoked Adjustments of the Organism as a Whole.

	Number of Patients who Presented Such Reactions
Persistent Nonadjustive Affective Reaction to—	
Baffling Physical Discomforts and Disabilities	46
Baffled Effort to Satisfy Major Cravings	34
Baffling Impairment of Advantage by Personal Agencies	20
Baffling Impairment of Advantage by Impersonal Agencies	14
Baffling Economic Difficulties	9
Baffling Personal Problems (unclassified)	4
Fear-inciting Stimulations	6
Indirect Reaction to Sexual Urges	13
Indirect Reaction to Masturbation	6
Indirect Reaction to Fear-inciting Stimulations	2
Indirect Reaction to Inferiority (compensatory manic)	1
Indirect Reaction to Inferiority (compensatory schizophrenic)	1
Indirect Reaction to Inferiority (compensatory alcoholic)	1
Complex Psychotic Indirect Reactions—	
Dementia-precox Type	1
Paranoia Type	1
Acute-confusion Type	1
Conditioned Fear Reactions	4
Conditioned Inhibition of Exhibitionistic Urges	2
Conditioned Overt Homosexuality	1
Submissive Reactions to Inferiority—	
Exaggerated Response to Urge to Acquire Status of a Physically Impaired Person	12
Withdrawal and Hypochondriacal Reactions in Neurasthenic Syndromes with General Trend Toward Submissive Reaction	12
Exhibitionism and Masturbation Complicating Korsakow's Syndrome	1
Unexplained Anxiety Attacks	1
Habit Alcoholism	1
Drug Addiction	1
Depressive Syndrome of the Manic-depressive Type	5
Nonadjustive Physical and Psychical Reactions to Shock	1
Overintense Direct Reaction to Craving for Personal Advantage	1
Direct Maladjustive Homosexual Jealousy Reactions	1
Direct Maladjustive Reaction to Husband's Infidelity	10
Direct Maladjustive Reaction to Wife's Infidelity	1
Undiagnosed Pathologic Reactions	3
Deliberate Malingering	1

(The above section of Table I represents a total of 145 patients.)

B. Neurological and Other Cases in Which There Were No Significant Pathologic Reactions of the Organism as a Whole.

	Number of Cases
Acute Confusional Psychosis (physically determined)	1
Postoperative Delirium	1
Cerebral Syphilis with Somnolence and Mental Hebetude	1
General Paralysis	3
Probable General Paralysis	1

TABLE I—Continued	Number of Cases
Syphilitic Epilepsy	1
Nonsenile Psychosis Determined by Cerebral Arteriosclerosis	1
Cerebral Arteriosclerosis without Significant Mental Symptoms	1
Motor Aphasia with Right Hemiplegia	1
Senile Dementia	3
Hemiplegia—Feeble-mindedness—Convulsions (in a child)	1
Undiagnosed Cerebral Changes (in a child)	1
Cranial Trauma—Convulsions—Feeble-mindedness	1
Idiopathic Epilepsy	1
Imbecile	1
Moron	2
Brain Tumor with Psychosis—Mistakenly Diagnosed General Paralysis	1
Migraine	1
Neuritis	1
Sciatica	1
Angioneurotic Edema	2
Hyperthyroidism	11
Postoperative Hypothyroidism	1
Paralysis Agitans	5
Tabes Dorsalis	1
Multiple Sclerosis	2
Lateral Sclerosis	1
Ménière's Disease	1
Bulbar Paralysis	1
Parkinsonian Syndrome Secondary to Epidemic Polioencephalitis	2
Nausea of Pregnancy Referred as Gastric Neurosis	1
Myocarditis Referred as Cardiac Neurosis	1
Unexplained Syncopal Attacks Referred as Psychopathologic Case	1
Total Number of Cases Presenting no Significant Pathologic Reactions of the Organism as a Whole	55

TABLE II

Distribution of Cases According to Age

Decade	Number of Cases
First	3
Second	6
Third	39
Fourth	41
Fifth	44
Sixth	43
Seventh	11
Eighth	9
Ninth	4
Total	200

The above table suggests that the third, fourth, fifth and sixth decades represent the period during which nervous disorders are especially apt to develop. This is the period of life during which environmental demands, inwardly arising urges and somatic disabilities are especially apt to disclose defects of the individual's

reactive equipment. After sixty, death and the natural tendency of elderly persons to become less responsive to personal limitations and baffling personal problems are important factors in the reduction of the incidence of the so-called functional nervous disorders.

TABLE III

DISTRIBUTION OF CASES ACCORDING TO SEX

SEX	NUMBER OF CASES
Male	73
Female	127
Total	200

The higher incidence of nervousness among women than among men is due, in part, at least, to the following factors: (1) lowered threshold of emotional responsiveness during the menopause, (2) greater liability to the development of hyperthyroidism, (3) conventions and, perhaps, innate tendencies which make for inhibition of and indirect reaction to normal sexual urges, (4) difficulties in the way of satisfying major cravings of all kinds, (5) greater liability to become the victims of spousal infidelity and of spousal infection with venereal diseases. We must also take into account the fact that men have, on the whole, a wider range of activities and interests than it is possible for women to have, and that this factor makes for a reduction, in men, of the pathologic reactive value of baffling domestic and other intimately personal problems.

TABLE IV

DISTRIBUTION OF CASES ACCORDING TO SOCIAL CONDITION

SOCIAL CONDITION	MALES	FEMALES	TOTAL
Married	47(38.84%)	74(61.16%)	121
Single	15(36.59%)	26(63.41%)	41
Widowed	6(24.00%)	19(76.00%)	25
Divorced	5(38.46%)	8(61.54%)	13
Total	73	127	200

This table shows that the distribution of married patients according to sex closely parallels that of all patients, irrespective of social condition. The same holds true for single and divorced patients. From this it would appear that being married, or single or divorced is no more conducive to nervousness in one sex than in the other. Widowhood, on the other hand, seems to be more con-

ducive to nervousness in women than in men. An alternative interpretation is, of course, that men are more apt to remarry.

It is a point of some interest that of the 11 patients who disclosed pathologic reactions to spousal infidelity, 10 were women. All of the eight divorced women patients were the complainants in court when the matrimonial tie was broken, whilst only three of the five divorced men patients were the guiltless ones. All of the women who gave histories of venereal infections had been infected by their husbands, but no man had been infected by his wife. The one prostitute of my records may have had venereal diseases.

TABLE V

Distribution of Cases According to Occupation

Occupation (men)	No. of cases	Occupation (women)	No. of cases
Business Men	14	Exclusively occupied at home; wives, widows or daughters of—	
Farmers	12	Business men	22
Mechanics	10	Mechanics	20
Railway employees	6	Farmers	17
Students	6	Unclassified	15
Unskilled laborers	5	Unskilled laborers	6
Salesmen	4	Railway employees	6
Professional men	4	Professional men	6
No occupation	3	Oil drillers	3
Clerks	2	Public officials	1
Stenographers	2	Barbers	1—97
Electricians	1		
Oil drillers	1	Occupied elsewhere than at home—	
Barbers	1	Teachers	7
Iron moulders	1	Housekeepers	6
Miners	1	Students	3
		Servants	3
Total	73	Clerks	2
		Bookkeepers	2
		Cigar rollers	2
		Artists	1
		Practical nurses	1
		Office girls	1
		Seamstresses	1
		Boarding-house keepers	1—30
		Total	127

2. **Therapeutic Findings.** The psychopathologist finds, perhaps more than any other medical specialist, that it is easy to effect a temporary improvement in most of his patients, but that actual cures or even substantial improvements are only obtained by in-

ordinate expenditures of time, patience and skill. We are handicapped by innumerable gaps in our understanding of human behavioristic functions, many of which can never be filled in until means are provided for the support of researches in human and animal behavior by both medical and nonmedical investigators who are qualified to apply experimental methods to the solution of our problems. Clinical investigations may be expected to fill in gaps here and there, but unless our specialty proves to be unique among the medical technologies, clinical experience and its interpretations will not enable us to develop a scientifically grounded therapeutics without assistance at every turn from an as yet to be developed special field of experimental medicine. Psychopathology is in a bad way, in my opinion, because we have not adhered to the same ideals of research honesty and accuracy that have led to such fine developments in other fields of medicine. We permit our nervous patients to fool us by their uncritical enthusiasms for our individually developed therapeutic propositions. Most of us can make good with a convincing number of patients who will keep us persuaded that we have a tremendously and weirdly scientific insight into human nature if we permit them to do so. Herein lies one of the greatest obstacles to our attainment of that fine honesty which impels the good surgeon or the good internist to admit that he does not understand when he does not understand, and that he can only palliate when he can only palliate.

A surprisingly large number of nervous patients sooner or later stop off at Santa Barbara (as they stop off at other resorts in California) to estimate its possibilities as a retreat from oppressive reality.

Those who have come under my observation have usually discussed the more or less eminent psychopathologists whom they have consulted. I have thus come to know something about the therapeutic methods of practically every American psychopathologist of repute from the generation that was led by S. Weir Mitchell to the generation that is now striving to orient itself with reference to endocrinology. It is apparent that each of these men has had patients who worshiped him and patients who damned him, and that none has lacked at least one individually fashioned weapon in his therapeutic armamentarium which all the rest might well covet. But the one outstanding impression that I have obtained from con-

tacts with other psychopathologists' patients is this: Unlike surgeons, internists, eye specialists and the remainder of the list of enviable colleagues who acknowledge no responsibility for the nervous patient, we psychopathologists lack a common fund of scientifically established findings upon which to base any sort of general agreement as to therapeutic procedure.

A constructive summing up of the therapeutic findings of my survey will require but little space: it demonstrated, to my mind, the practical value of explaining the nervous patient's illness to him in terms of objectively formulated principles. My experience with the two hundred survey cases has led me to adopt the following procedure in dealing with nervous patients:

1. An effort is made at the outset to prevent the patient from feeling on the defensive as to the reality and importance of his discomforts and disabilities. He is required to give a complete list of his discomforts and disabilities.

2. Surgeons, internists and physicians in other fields of medicine who may be held responsible for disclosing any tangible physical disorders which may be present are urged to give the patient a very careful examination, and to give me a record of their findings.

3. During my own examination the patient is held to an orderly account of himself by being constantly reminded that the most important question in my mind is this: "To what things are you now responding inadequately, and how are you responding to them?"

4. This question, when changed to the past tense, should be constantly in his mind while he is giving an account of his previous history.

5. As soon as I gain my own general orientation as to the patient's previous history and his present condition I propose to myself three general questions, viz., (a) Is this patient reacting persistently, nonadjustively and affectively to baffling disadvantages of one sort or another? (b) Is he reacting directly to his personal problems or is he inhibiting direct responsiveness to them and disclosing, in consequence, indirect reactions to such problems? (c) Does his present behavior, when correlated with known or suspected past experiences, suggest the presence of significant conditioned reactions?

6. As soon as the patient's reactions have thus been typed they are exposed to him as morbid things in the same objective way that one exposes to a tubercular patient the findings of the stethoscope, the microscope, the clinical thermometer and the x-ray. For example, I may say to one patient, "Your habitual mode of response to your husband's infidelity is a feeling-response which gets you nowhere at all in your efforts to handle the situation, and seriously interferes with various important bodily functions." She is then put in possession of such facts and principles as are available concerning human and animal responsiveness to baffling disadvantages. Another patient is told that she is reacting indirectly to stimulations to which she has evidently inhibited direct responsiveness, and that we must go over her history again in an effort to discover as many stimulations as possible which were likely to have precipitated such inhibition. If I suspect that her inhibition of recall processes is too firmly fixed as a reactive habit to enable her to overcome it by relaxing and thereby acquiring a noninhibitive reactive set for purposes of examination I may be compelled to study her dreams as interpretable indirect reactions; but one rarely encounters a patient who is unable to disclose *by ordinary processes of recall* ample material for an explanation of her nervousness.

Patients who have been conditioned to respond dysteleologically to particular types of stimulation can often be literally cured by a very simple procedure. Such a patient should be required to lie down in a quiet, dimly lighted room, and with only the physician present to narrate all experiences which seem to her to have had the reactive value of the stimulations to which she now responds so pathologically. This procedure sometimes permits the recall of a single critical experience which adequately accounts for the psychoneurosis; but more frequently the patient narrates long sequences of conditioning experiences, no one of which is in itself either dramatic or adequately explanatory of the nervous symptoms.

7. The psychoanalytic swing of the pendulum away from rest-cure methods has resulted in a too prevalent failure of physicians to appreciate the fact that many nervous patients are too seriously exhausted to comprehend what is said to them. Even experienced neuropsychiatrists often fail to recognize an important but not obvious degree of confusion in a nervous patient who pretends to take in the many wise things that are said to her by her doctor,

but who is actually so confused that she cannot solve a simple problem in arithmetic. Rest in bed under soothing conditions, the physician's assurance that a few weeks devoted to a care-free recuperation from nervous fatigue will pave the way for an effective approach to her problems. Appropriate dietetic and therapeutic measures ought, if possible, to precede specifically psychotherapeutic measures in these cases. The static neurologist who merely coddles his nervous patients certainly has no right to regard himself as a psychopathologist; but the psychoanalyst who begins at once to bully his patient or to apply "third-degree" methods of examination when the presence of nervous fatigue and consequent confusion calls for at least a few weeks of coddling forgets that he is, first of all, a physician. During my survey I was seriously handicapped by my patients' inability to expend the time and money required for a preliminary rest elsewhere than in their own homes, but I found that homes can often be adapted to the needs of persons who must first be studied, then taught.

Reference has previously been made to the fact that none of the patients of the survey had heard of Freud and psychoanalysis excepting, perhaps, as they may have heard of Einstein's theory or similar matters about which they remained essentially uninformed. This would probably not now be true of the community in which this work was done, and at the present time a large percentage of nervous patients in any community will be found to have a considerable smattering of psychoanalysis. The family physician who is familiar with the general outlines of Freud's teachings is in a far more favorable position to make effective his own methods of dealing with nervousness than is one who must confess that psychoanalysis is for him a *terra incognita*. Practical considerations have therefore led me to supplement the therapeutic suggestions contained in Chapter II and in the above summary by an account of my procedure in those cases in which the patient expects a discussion of his case in terms of his usually half-baked knowledge of Freudian psychopathology. It is my aim to give the nervous patient, in the end, a working knowledge of objective psychopathology as I conceive it, and as it is presented in the second part of this volume; but it is often desirable to preface such reeducational efforts by presenting to him a brief summary of psychoanalysis, not as it is conceived by Freud's lay disciples, but by the more

critical of the medical psychoanalysts. The following is a literal quotation of what I have recently said to a patient who has read extensively in psychoanalysis:

"It is my desire to supply you with usable information as to how and why the human personality operates as it does under the various conditions which go to make up human life. The personality is a going thing which can be profitably studied as a mechanism—studied as an ambitious motorist studies the automobile so that he can do more than merely drive it while it is in perfect running order and when road conditions are ideal. He wishes to know the mechanics of the thing under him, so that he can operate it successfully in heat and cold, up and down steep grades, when feed pipes are clogged, carburettor out of adjustment, spark plugs foul, valves dirty, timer out of commission, etc. Now a set of platitudes about automobiles, such as one might read in a popular periodical or in the magazine section of a Sunday newspaper, have a certain value for the lay mechanic, but he needs a more systematic and detailed knowledge than that for a successful trip across the continent unless he can always have a trained mechanic at his elbow. So is it with the business of driving the personality across the hills and vales and swampy places of life. Platitudes help a lot at times, but they cannot take the place of a well organized understanding of the mechanics of human mental life and behavior.

"It is going to be a little difficult to give you what I have in mind without leaving you with a general feeling that there is a sharp clash of opinion between those of us who have tried to remain true to the facts and methods of scientific psychology and those who have accepted as final the brilliant and daring speculations of the great founder of psychoanalysis, Sigmund Freud. There is a clash between the two camps, it is true, but the essential points of their respective views and methods can be sufficiently harmonized to justify you and me to ignore it for the practical purposes of our relationship as doctor and patient. I shall not hesitate to use the psychoanalysts' terms and even their methods if I can thereby better serve you.

"I know that you would like to have a better understanding of psychoanalysis than you have been able to obtain from lectures and books of persons who have only a theoretical knowledge of nervousness, so I am going to devote as much time as may be neces-

sary to a discussion of this subject. Then, when I come to discussions of your case and of my own experience with nervous patients in general, I believe that you will have, at most, only an academic interest in differences between the views of psychoanalysts and those of psychopathologists of my persuasion.

"The psychoanalyst proceeds from the assumption that no thought, feeling, impulse or act; no dream, nervous fear or mistaken belief; no slip of tongue or pen—nothing which expresses you as a self-directing organism—occurs by chance. Whatever man does or experiences which cannot be attributed to agencies external to his personality is held to be determined by his own mental activities of one sort or another. These mental activities are of two general sorts:

"1. Those which are either more or less clearly in your consciousness of the moment or which may at any time clearly and directly express themselves as your consciousness. Thus you are now conscious of various sensations which are pouring in upon you, of having been in an office similar to this one two years ago, of a desire to grasp what I am telling you, etc. In another moment you may be conscious of having once possessed spectacle frames similar to mine, of various newly arising desires, etc. The psychoanalyst would tell you that there are going on within your personality, mental activities which are enacted outside the portal of your present awareness, and other mental activities which are in the very center of the stage of your awareness. All such mental activities, whether you are personally aware of them or not, are alike in one important respect, viz., you are able to accept them as part of your experience without resistance. It is true that you will select from among the mental activities which tend to occupy the focus of awareness only those which seem relevant to the interest of the moment and that you will ignore all others; but the important thing is that you can voluntarily ignore or give keen attention to particular mental activities of this sort whenever they tend to come to clear awareness.

"2. The psychoanalyst is chiefly interested in an hypothetical mental region which he designates 'The Unconscious.' He believes that the mental activities which take place within this secondary mind are never permitted to come to direct expression in your awareness, and that to them we may attribute practically all the symptoms of

nervousness, including its tensions, morbid fears, incapacities and disturbances of comfort and efficiency in general. Once you clearly understand what is meant by the term 'unconscious' you have half the battle won in your efforts to understand psychoanalysis. MacCurdy,[1] who has given us the most recent and most logical summing-up of Freud's doctrines, defines the mental activities of The Unconscious as 'those mental processes which struggle for admission to consciousness and are thrown back.' You must not interpret this to mean that you consciously and deliberately throw such mental processes back into The Unconscious. The throwing-back is usually done as unwittingly as bile is expelled from your gall bladder into your small intestine. Failure to appreciate this point is fatal to any real understanding of Freud's theories.

"According to MacCurdy, Freud believes that all the mental processes which are rejected by the ego and kept within the confines of The Unconscious are of a sexual nature. Now we know that the sexual instincts tend to exert a very great pressure for entrance into awareness as desires of one sort or another, imaginations of a lustful nature, erotic intentions and impulses toward behavior. We also know that we tend to 'put out of our minds' any sexual thoughts or desires which are too seriously in conflict with our habitual standards of decency. According to the most recent and logical concepts of psychoanalysis The Unconscious is a mental field which harbors all sorts of inacceptable or outlawed motives which are allied to the sexual instincts, and these motives exist as actual psychical processes, which have their own methods of fighting for some sort of recognition in awareness and behavior. The symptoms of nervousness are held to be resultants of conflicts between (a) motives in The Unconscious which seek expression in consciousness and (b) your ordinary, wake-a-day mind which seeks to keep out such motives. Viewed from the side of consciousness, the symptoms of nervousness are smoke screens which it uses to shield itself from awareness of the shocking mental contents of The Unconscious. The same symptoms, when viewed from the Unconscious side, are cunningly disguised expressions of shocking, forbidden, repressed motives. Of course the patient is inclined to deny that any part of his personality harbors motives and similar mental activities against which he must strive lest they come to awareness, and is often with difficulty persuaded that the conscious

side of the conflict is automatic, and not knowable to the victim by ordinary processes of attention, introspection, etc.

"How does the personality develop this troublesome secondary self, The Unconscious? Freud would tell you that it or, rather, its constituent motives, impulses, memories, etc., are created by a mental operation known as *repression*. He states that repression begins during infancy as a 'flight of the ego from cravings which it regards as dangerous.' A moment's reflection will convince you that the child must begin very early in its life to throw out of gear many crude impulses—that it must somehow resist the impulses of its original nature—if it is to grow into an acceptable member of the social body. Freud guesses that it begins very early to develop a region of the personality which leads a mental life of its own, and with which the ego refuses to have any sort of direct traffic or even to acknowledge as having any existence at all. MacCurdy,[1] in his efforts to set the Freudian household in logical order, expresses the opinion that the first highly important repression comes when the child feels impelled by its attachment to and tenderness for a parent to regard that parent as a sexual mate. This incestuous impulsion is so horrid that the young mind shrinks from it, labels it a psychical outlaw and is thereafter incapable of being aware of its existence. MacCurdy does not dispute the contention that there is an Unconscious, laden with repressed material, before repressions of incestuous impulsions occur, but his experience has convinced him that in most mental and nervous troubles of the functional sort the real starting point is to be sought in the rise and repression of the incest motive. Once it has been outlawed to The Unconscious, other impulses and motives, many of which are harmless in themselves, cluster about the incest outlaw and help to make up a band (complex) of clamorous outlawed motives which may keep going the conflict with the ego which finally ends in nervousness or insanity. The repressed impulse to respond to a parent as to a sexual mate is usually referred to as the *Oedipus Complex*. Those who wish to make their terminology consistent with classical mythology use the term, *Electra Complex*, to designate the repressed incestuous impulsions of a girl whose sexual urges are unconsciously directed toward her father as a sexual object.

"During sleep, when the natural alertness of the mind is dulled, impulses from The Unconscious are apt to push toward the stage door of consciousness and to threaten entrance thereto. If the true nature of the intruder were too clearly apparent the mind's *resistance* to an awareness of it would wake up the sleeper. This resistance on the part of the mind causes the intruder from The Unconscious to assume disguises, so that it enters upon the stage of dream consciousness in highly dramatized images. For example, a woman who repressed into her Unconscious impulses to seek the sexual attentions of an older, perverted girl during her own childhood, had a dream in which she passed under a railway bridge and saw the unsupported track sway downward as if about to rest upon her. Her *free associations,* which were merely the undirected flow of ideas, images and feelings which flitted into and out of awareness while she was sitting with body relaxed and her mind passive, soon enabled her to recognize the dream image of the downward-swaying bridge as a symbol of what she once felt impelled to have the perverted girl do to her. In another case a young girl who had repressed sexual impulses directed toward an entirely respectable brother-in-law, dreamed of a two-headed snake which approached her and her sister as they walked along a country road. When this dream image was made the starting point for her free associations she discovered that it symbolized a desire to copulate with her brother-in-law without thereby cheating her sister. The snake stood for the man's sex organ, and its two-headedness implied the possibility of his having a sex organ for each of the two girls.

"If the disguise of the repressed impulse is too thin as it flits about the stage of dream consciousness the ego is apt to become frightened by the threatened awareness and a nightmare ensues, with its stifling sense of terror. If the mind's resistance to the intruder is too vigorous the victim awakes, and we thus have a cause of insomnia disclosing itself, viz., a too active Unconscious.

"Dream analysis may merely consist in guessing at what the dream images symbolize, but its most valuable feature consists in the training which it gives the patient in laying aside resistance to the becoming-conscious of hitherto repressed and indirectly reacted to impulses from The Unconscious. Ordinarily, the patient is directed to bring the physician one or more recent dreams, written out as fully as possible. Then the physician, guided by his

knowledge of the patient's life history as a whole and by his own preconceptions as to what kinds of repressed material are responsible for the symptoms, selects one of the dream images as a starting point for the patient's free associations. If the patient is not too argumentative and not too cocksure that he can voluntarily recall whatever may lurk in his personality as a horrid impulse, desire or memory, he need only revive the dream image, then assume the greatest possible degree of mental passivity, in order to give The Unconscious an opportunity to express itself directly in consciousness. When resistance to an active Unconscious impulse or other process is laid aside, conflict between that content of The Unconscious and the previously resisting ego ceases. Since the nervous symptoms are a resultant of this conflict, its disappearance means cure.

"When the patient is first asked to strike the mental attitude essential to free association he either gives a series of logically, hence consciously directed ideas, or exclaims despairingly, 'Nothing comes.' This is because the procedure, by threatening the ego with awareness of painful images from The Unconscious, increases its resistance. This mechanism (increased resistance of the ego and coincident increased activity of The Unconscious) is held to account for the fact that at the beginning of a psychoanalysis the patient is apt to suffer an increase of nervousness. With practice an intelligent patient will catch the knack of laying aside repression and of overcoming the tendency to direct the flow of associations in a logical, conscious way. When this stage is reached it is The Unconscious that directs the flow of associations, hence the great value of this procedure. It can be made to bring to the corrective light of consciousness any given complex of hitherto repressed desires and memories, and thus end the symptom-breeding conflicts.

"*Regression* is an important word in psychoanalytic literature, hence a clear understanding of its technical meaning is important. First of all, reflect that man comes into the world very poorly equipped to meet the realities of life and the needs of his own being, and that his methods of meeting them must steadily change as he grows toward maturity. At first the infant must cling to his mother for all that goes to make his life safe and satisfying. His world—the world with which he interacts—must be made up

of persons who are so concerned with his welfare that they are, psychologically, almost as much parts or extensions of himself as are his own arms and legs. He *identifies* them with himself as parts of himself. His satisfactions are largely sought and derived from the little circle which is filled with self and the caretaker-extensions of self. These satisfactions are preponderatingly sensual: sweet, warm, thirst-and-hunger-satisfying sensations derived from milk; pleasant sensations derived from sucking the mother's or the bottle's nipple; refreshing sensations which are yielded by the activities of the mother in stroking, cuddling and bathing her baby; the sensual experiences (assumed to be pleasant) connected with discharging the bowel and bladder, and the warm, snug sense of protection one gets when bundled in the crib or basket.

"These are the baby's main satisfactions, and he very slowly adds to them by seeking to do things to the objective realities which lie outside the infantile circle of subjectivity, and to have these external things act upon him. His equipment for meeting external reality as it comes is very poor for many years, and as it develops toward mature adequacy he passes through various stages. The psychoanalysts designate the first of these the *autoerotic stage,* a term which fits in with Freud's general hypothesis because it is suggestive of sexual processes. Nobody will deny that the infant leads a highly sensual life, but I cannot agree with Freud that the sensual satisfactions and activities of the infant are properly classifiable as sexual. For the moment, however, let us not quarrel with Freud's use of the term *autoerotic* in giving a label to the first stage of human mental life. It is fairly safe to assume that at this period of the child's life there is very little, if any, self-consciousness, but that the bundle of cravings and sensations that is the infantile ego is the focus and center of all his feebly defined aims, interests and desires. After a while, self-consciousness appears, and with it comes the second stage. It is marked by the development of a very crude, very ardent self-love. Satisfactions are still largely derived from self-inflicted and mother-inflicted stimulations, hence, according to the Freudian hypothesis, they are classifiable as autoerotic. But during this second stage, which is designated the *Narcissistic* (self-love) stage, an idea of self is built up and loved. You will recall the myth in which Narcissus fell in love with a reflection of his own image as he gazed into a pool. With

the child's stream of desire steadily flowing toward self as something to be glorified and gratified he indulges in imaginations of a self which can do and be all sorts of immensely gratifying things. Fairy tales, with their accounts of magical capacities, seem to owe their origin to the child's instinctive demand for fantasies for the glorification of a dearly beloved self which he identifies with his own ego, of course. The parents are still somewhat identified as extensions of self, and are loved, not as clean-cut, separate and out-in-reality other persons, but as such extensions. 'My father' and 'my mother' are expressions which have for the child a *felt meaning* similar to that of 'my fingers' and 'my toes.' The supremely tragic moments of the little child's life come when these beloved parental components of the beloved self behave as though they were detached beings, having separate personal foci in the big, unmanageable, uncontrollable world of not-self. Nevertheless, even during this Narcissistic stage there is gradually developing a capacity for object-love or, as it is often designated, object-attachment. The difference between the self-love of the child and the object-love of the man is illustrated by the psychologic differences between John Smith's day and his little boy's. John is member of a committee which is charged with the construction and financing of a new church building. His desire flows unto a bit of ground, various bits of wood, glass and stone and the beautiful edifice which he seeks to have fashioned out of these things. He forgets, for long stretches of time, that there is such a person as John Smith, so great is his attachment for that thing which is being developed out there in the world of non-ego realities. He loves the proposed new building for itself—as a thing totally abstracted from his own welfare. His little boy, on the other hand, is busily seeking or avoiding things all day long with almost exclusive reference to his purely personal comfort and satisfaction. He seeks food, rest, his mother's arms, toys and tales of children (with whom he identifies himself) who need only wave a magic wand or rub a magic lamp in order to satisfy every conceivable craving for physical pleasure or personal glorification. He indulges in fantasies, not of splendid achievements in behalf of causes which have no direct reference to his own benefit, but of subjective delights.

"Beyond the Narcissistic stage, and before adult capacity for object-attachment is fully developed, a third stage must be passed

through. Nature has all along been leading the child toward the various biologic goals of adult life, and the time has now come for a more definite shaping of its reactive mechanisms for the functions of mating and reproduction, with all that this involves by way of self-denial and object-attachment. The tethering post of desire and effort must cease to be exclusively self, and must become, at every turn, this or that object which is neither self nor a felt extension of self. A mate must replace self as the chief object of desire and attachment. But Nature does not abruptly jump the child from the Narcissistic stage of self-love to full-fledged, adult capacity for object attachment. He is neither ready to meet the obligations of matehood and parenthood nor to derive from normal adult breeding activities the satisfactions which so keenly lead desire that self is willing to suffer as well as to enjoy. Love of self is shifted to an intermediate object which is neither wholly self nor wholly not-self, viz., the mother. It will be remembered that during the earlier years the mother was identified as a kind of self-extension, and that when the child fell into impulses to regard her as a sexual mate such impulses were vigorously repressed. The lingering tendency to love only persons and objects which can be identified with self now asserts itself, not as a conscious incest motive, but as a desire for a highly emotional relationship with some unrelated person closely resembling self. To meet this need such a person must be of the same sex as the child, hence we have now appearing the girl's tendency to develop ardent 'crushes'—to love another girl with extravagant devotion. The boy has his chum Pythias, to whom he sustains the relation of Damon. This is the third or homosexual stage of development, and is often marked by physical expressions of love which may lead to episodes of nastiness between boy and boy or girl and girl. But whether the girl ever indulges in nastily erotic behavior with her girl sweetheart or the boy with his chum, or not, strong sexual feeling toward the beloved one will arise, and call for ultimate repression. Very few adults who have been thoroughly analyzed are found to have escaped a period of development during adolescence when there occurred erotic feelings toward persons of the same sex and some rather nasty little homosexual episodes.

"After the homosexual stage comes normal adult capacity for meeting reality squarely and efficiently in all its various phases and

for what it is worth intrinsically. The capacity for strong object attachments now becomes an indispensable asset of life. The fate of the proposed new church building, of the Armenian orphans, of the Republican party and of your own wife now become things unto which your desire may flow in full force.

"Now the term *regression* is used to designate a falling back upon one of the immature stages of mental development for methods and attitudes which shall determine what satisfactions the individual shall seek and how he shall seek them. According to the psychoanalysts, the autoerotic cravings of the first stage, the Narcissistic cravings of the second stage and the homosexual cravings of the third suffer repression whenever they come in conflict with more mature aims and standards, but they always remain at least potentially active within the field of The Unconscious. Thus it is that if they are set in operation by the conditions of adult life they are apt to express themselves indirectly in the mental activities and behavior of the individual. If reality becomes too harsh or otherwise unsatisfying, or if illness of one sort or another weaken your capacity for meeting reality and its competitions, your repressed longings for infantile modes of obtaining satisfaction, either in the form of freedom from discomfort or of the possession of positive benefits, will have their innings. The hypochondriac, who is endlessly concerned with his physical condition, is said to be a person who has regressed to an infantile autoerotic or Narcissistic stage of mental life. His Unconscious is not permitted to express itself frankly because of his old-time repressions, hence a compromise is effected somewhat as follows. Some quite real physical disabilities and discomforts serve as an excuse for making the ego the tethering post for the major interests and activities of the day, and bodily sensations are the chief concern of the patient.

"In cases where a satisfactory mate has not been found or, having been found, proves to be unsatisfactory, the individual may regress to the autoerotic stage or level, with consequent masturbation or its equivalent, or only as far back as the homosexual level, with consequent very active urges from The Unconscious to seek homosexual satisfactions. The homosexual urge is in conflict with consciously held aims and standards, hence there appear, not homosexual acts, but symptoms which defend consciousness against

awareness of the real longings which make him tense, restless and unable to find satisfaction in available values.

"The psychoanalytic theories may be regarded as attempted explanations of actual facts of human experience, and no matter how sound or unsound one may regard these theories, the facts remain for our guidance in dealing with the discomforts and incapacities of nervousness. Most patients who reject the psychoanalytic theory are really seeking an excuse for not acknowledging the apparently unflattering facts upon which they are based, and for retaining the protected, subsidized status of persons who are not expected to meet the demands of reality as they are met by healthy, self-sufficient adults. The nervous patient is too apt to desire, not a restoration to a degree of health which shall carry with it an obligation to face self and the world of not-self squarely and unflinchingly, but such soothing, coddling and flattering as will make the retreat from this obligation as comfortable as the baby's retreat to the mother's arms. In my further explanations of nervousness it will become apparent to you that objective psychopathology does not offer a comfortable and graceful retreat from the realities of life, but that, like psychoanalysis, it seeks to disclose to you your bad reactive habits and to assist you in overcoming them."

PART II

PRINCIPLES OF OBJECTIVE PSYCHOPATHOLOGY

CHAPTER IV

INTRODUCTION

The clinician is in scientific partnership, as it were, with investigators in various special fields of biologic research, such as biochemistry, bacteriology and endocrinology. His practical problems sooner or later become the problems of medical research, and he has many facilities for keeping in touch with what is currently offered for their solution. When he reads or listens to reports of specially trained investigators he may not feel competent to estimate the soundness of the finer points of their research technic, but it is an important part of his contribution to medical progress to keep effectively in touch with the work of the research members of his various scientific partnerships. On the other hand, the research men—not all of whom hold medical degrees—have shown that it is possible for them to pursue the general theoretical goals of their various special fields of inquiry and at the same time to keep oriented with reference to the currently arising problems of clinical medicine. For reasons which will be disclosed in what follows, nervous patients have not had their proper share of the benefits to be derived from these partnerships between clinicians and research men.

However reluctant the internist may be to acknowledge a therapeutic obligation to the nervous patient, he cannot escape the fact that such patients form a very considerable part of his clinic. Under conditions which now prevail and which are apt to prevail far into the future the internist cannot properly exclude nervousness from the list of disorders that he is willing to accept as coming within his province. While it is true that nervousness is often an expression of inadequate and inappropriate modes of thinking, feeling and doing, there are many cases in which it arises as a sec-

ondary reaction to baffling physical disorders. It is often a matter of vital importance to the patient that his secondary nervousness be treated as intelligently as his physical disorder. The importance of this point is illustrated in Chapter II: 23 per cent of all nervous cases studied during the survey exhibited pathologically persistent nonadjustive affective reactions to baffling somatic discomforts and disabilities.

Primary nervousness presents, of course, somewhat different problems, but it is to be remembered that with very few exceptions only the larger cities have thus far attracted clinical psychopathologists. In most cities of less than 100,000 population the internists must do all the psychopathologic work that is done locally, and even in very large cities many nervous patients who are entirely willing to be referred to ophthalmologists, neurologists, gynecologists and other specialists for treatment refuse to release the family physician from his obligation to understand and deal with their adjustive difficulties. The internist usually makes the best of this uncomfortable situation by using his trained common sense, but he is apt to dismiss as hopeless the possibility of bringing his working knowledge of psychopathology up to the level of his working knowledge of other branches of internal medicine. His excursions into the field of psychopathologic literature lead him to believe that the dysfunctions which have nervousness for their essential symptom belong to a different dimensionality from that in which somatic dysfunctions are evaluated. His technical knowledge has its foundations in the natural sciences; hence his training qualifies him to grasp only those scientific propositions which are verifiable, in the last analysis, by human sense-organs. Psychologic propositions, as he has been taught to regard them, are for the most part only verifiable in another and somewhat esoteric dimensionality. *Overdetermination, censorship, complex, repression, sublimation—these are quanta* to which he cannot gain orientation in terms of what may be revealed by eyes, ears, finger-tips and their laboratory extensions, whilst the most intricately formulated concepts and the most awkward scientific *argot* of other medical specialties do not deny him opportunities for such orientation. *It is one of the objects of this book to persuade the internist that he need not depart from the fundamental methods, concepts, terminologies and sense-organ orientations of the*

natural sciences in order to employ the same degree of scientific purposefulness in dealing with his nervous patients that he employs in dealing with all other classes of patients.

In 1905, after I had had three years of work in institutional neuropsychiatry, I began my work in comparative psychology under Yerkes, at Harvard. On my way to Cambridge I stopped off at Philadelphia to pay my respects to Dercum, from whom I had received my undergraduate training in nervous and mental disorders. When I told Dercum my plans he assured me that I might as profitably holler into an empty barrel and listen to the echo of my own voice as to study psychology for the sake of improving my understanding of psychopathology. He doubtless had in mind the kind of psychology that Watson[12] repudiated in 1913, but we have reason to believe that if I had told him that I was on my way to Vienna to study psychoanalysis under Freud he would have been even more pessimistic as to the profitableness of my venture. Fortunately, as I regard it, Yerkes' lectures and the experimental work that came under his direction impressed me with the practical unimportance of any knowledge of psychical activities which must be inferred from behavior or arrived at in any other way than by listening, doctor-wise, to the naïve reports of human subjects as to their thinkings, feelings, strivings, etc. It seemed to me that the comparative psychologists had already done a good deal toward developing methods for experimental studies of the responsive properties (reactive tendencies) which function to determine behavior. I knew, as a medical man, that mammalians in general—including the human subject—possess intrasomatic responsive properties which account for sweating or panting when it is hot, leucocytosis after invasion by certain types of microorganisms and increased flow of urine after excessive water-drinking. There was now disclosed to me a field of inquiry in which research men were identifying, by experimental procedure, responsive properties which account for the modes in which a given mammalian adjusts itself as a whole to environmental conditions.

It seemed to me that psychologists need only to ignore the inferable middle-term (psychical) processes which presumably enter into stimulation-response sequences in order to speak the language of experimental medicine. Nervousness which is not due to toxic,

traumatic and similar agencies is symptomatic of adjustive dysfunction, I thought, and we can't deal intelligently with adjustive dysfunctions until we know a great deal more about the adjustive properties or tendencies of man. I argued that since comparative physiology had been essential to the development of human physiology and pathology, comparative psychology was likely to develop many of the essential foundations for a scientific psychopathology.

This perhaps unnecessarily simple clearing of the deck for my future laboratory, field and clinical studies of mammalian behavior led me to ignore the biological importance of psychical reactions. It was not until I had come under the influence of Adolf Meyer that I began gradually to veer toward an acceptance of the possibility that evaluations of such reactions in systematic accounts of behavior need not involve a relapse to the futile method of seeking to explain human and animal reactions in terms of inferred psychical determinants. Yerkes'[13] more tolerant acceptance of Hobhouse's[14] second edition of *Mind in Evolution* (1917) and his coincidently expressed objection to Watson's viewpoint as too rigidly objective gave me an added sense of my own delinquencies as a too objective-minded behavioristic.

In 1907, in a report of some experimental work,[15] I expressed the opinion that efforts to conduct experiments for the sake of adding to our knowledge of the activities of consciousness as such only retard and unnecessarily complicate our studies of mammalian reactions. At that time the precedents already established in comparative physiology led me to believe that it would be profitable to trace the phylogenetic relationships of experimentally isolable reaction-types. It requires some courage to quote at length, and without expurgation, the over-simple opinions which I then held, but the following quotation ought to be included for the sake of making as clear as possible the general intention of my subsequent investigations:

"Lord Morgan[16] defines a psychologic process as 'the middle term between the results of complex stimuli from the environment on the one hand, and the results of complex reactions to that environment on the other hand.' Instead of stating our problems in the interests of hypothetic interrelations of these middle-term processes, and instead of making our experimental and clinical observations subservient to problems so stated, it seems desirable to pursue a

method of studying animal behavior which will keep us more closely in contact with the facts accessible to us. Such a method is realized, I believe in the clinical and experimental study of reaction-types.

"It is true that partially objective methods have been followed in this field so far as the higher vertebrates are concerned, but the divorcement from middle-term speculative demands has been more apparent than real. Otherwise, there would be no appeal to 'criteria of consciousness'; no catering to hypothetic modes of mental elaboration of sense-data; and, in short, no need of psychologic inferences in our interpretations of animal behavior.

"Animal behavior affords data for the solution of a great and comprehensive problem: starting with the assumption that from the lowest forms of life to human life there is an ever-increasing adequacy of adjustment to complex environments, and that the adequacy (in the sense of complexity) of adjustments implies a corresponding complexity of effective inner elaboration intervening between reception of stimuli and reaction to them, the general problem becomes far simpler, and loses none of its importance if we have to deal only with the possibility of establishing the presence or absence of a continuity of the third terms of the formulae, stimulation-inner elaboration-reaction. Attempts to conduct experiments for the sake of gaining knowledge of the intimate workings of the 'inner elaboration' seem only to retard and unnecessarily to complicate the problem. If the complexity of a given situation be definitely known, and if there be only one 'most adequate' reaction possible to that situation, these, and not inferred psychic processes will enable us to give the reaction its continuity-position. Of course other objectively determined factors must enter into consideration, such as the relative influence of instinctive equipment and of experience."

In 1913 Watson[19] boldly proclaimed the futility of all effort to deal with consciousness as material for scientific investigation, and defined psychology as a "purely objective experimental branch of natural science." He proposed, in effect, that we deal with consciousness only as the surgeon deals with it when he takes into account a patient's naïvely reported awareness of pain. Watson's eminence in the field of scientific psychology led me to hope that, in spite of the enthusiasm with which Freud's psychomorphic propositions had been adopted, his confession of scientific faith would

pave the way for the inclusion of comparative studies of mammalian behavior within the general field of experimental medicine. Watson was unfamiliar, I knew, with my earlier expressed views as quoted above, hence the interest with which I read the following paragraph from his textbook, *Behavior, an Introduction to Comparative Psychology*:[18]

"Only direct observation of the mental states themselves by the method of introspection will ever tell whether you are grieving over your past sins or are really trying to reach a decision about going abroad. If we grant this, and such an impulse is very strong, the behaviorist must content himself with the reflection: 'I care not what goes on in his so-called mind; the important thing is that, given the stimulation (in this case a series of spoken words), it must produce response, or else modify responses which have been already initiated. This is the all-important thing, and I will be content with it,' i.e., he contents himself with observing the initial object (stimulation) and the end object (the reaction)."

In various previously published reports of research[19] I have proposed that we regard the activities of the organism as most directly attributable to the functioning of physiologic properties which have structural representation in either inherent or acquired features of neural organization. These properties were designated *reactive tendencies,* and practically all of my clinical as well as my field and laboratory investigations have been directed toward the isolation of these responsive properties in the behavior of human and infrahuman mammalians. McDougall's[20] *innate conative tendencies* and Lasurski's[21] *hauptneigungen* have a somewhat similar connotation, but I have sought to define the term *reactive tendency* in such a way as to place it in the same medical category with the terms which we somewhat loosely employ when we wish to call attention to the fact that the organism is possessed of this or that property which determines its intrasomatic adjustive responses to a given type of stimulation.

The clarification and sanction of my views that I derived from Watson's earlier textbook—however seriously I may have misinterpreted his text—brought me finally to a position with which, perhaps, neither he nor Yerkes will agree. It is offered here as a method of formulating practically usable facts, and no merit is claimed for it other than its convenience: all types of mammalian

reaction—*whether these be psychical or nonpsychical, behavioristic or intrasomatic*—reflect the functional activity of organic properties (reactive tendencies) which can be most simply and fruitfully dealt with as physiologic *quanta.*

We have long since learned in medicine that the purely empirical formulations with which the urgency of our problems require us to bridge the many gaps in our knowledge of disease lead us nowhere in the end unless they are accessible to checking by appropriate experimental procedure. We forgive the speculative endocrinology which has sprung up within recent years a good deal of its wildness and improbability because its propositions are at least conceivably accessible to sound methods of investigation. It is otherwise with the great bulk of past and current empirical formulations of psychopathology. The usurpation of this field by those who would explain all morbid adjustive activities in terms of inferred psychical determinants, psychical mechanisms, etc., has been tremendously suggestive, and has served to improve our orientation as to the concrete problems of the nervous patient; but we must remember that no psychologist has even been able to propose a satisfactory method for arriving at scientifically verifiable interpretations of human or animal behavior in terms of its psychical determination. The psychoanalysts have done better than to holler into empty barrels that they may receive echoes of their own voices, but only in the sense that, like poets, novelists and other nonscientific observers, they have generalized from automorphic interpretations of the behavior of others.

In all fields of medicine save that which deals with the so-called functional nervous and mental disorders the significance of psychical activities for diagnosis and therapeutic guidance is arrived at simply enough. The quality, intensity, duration and subjectively established site of a given pain; similar subjective data as to sensations which lack the quality of painfulness but which seem to lie outside the range of normal sensory experience, and accounts of disabilities which are not objectively apparent—all such naïvely reported psychical activities are simply accepted as end products of objectively measurable extrinsic and intrinsic determinants. The physician regards such psychical activities as merely so many symptoms, and symptoms are, for him, clues to morbid processes which he wishes to correct. Morbid processes, in turn, cannot be ade-

quately understood save in terms of how the organism tends to respond to the incidence of this or that pathogenic stimulation. Symptoms *S-n* disclose to us the operation of pathogenic agencies *P-n* because appropriate research—correlated, often, with wide excursions into the fields of comparative anatomy and comparative physiology—has shown that the organism tends to respond to *P-n* by manifesting *S-n*. In medicine, as in all the other technologies that are derived from the natural sciences, predictions that particular sequences of this general type will be found to occur in Nature are classified as guesses until they are verified or refuted by a critically scientific use of investigating human sense-organs. The temptation to make alluring guesses and to claim for them the dignity of scientifically established propositions has too long led psychopathologists astray. Furthermore, in their zeal for juggling with inferred psychical activities which no patient can honestly report as ever having entered into his direct experience they have overlooked the fact that in all other fields of medicine it has been found necessary to exclude from the category of working hypotheses whatever is so posited that, in the nature of things it cannot be verified by recognized methods of the natural sciences.

There is one aspect of consciousness for which, it seems to me, Watson fails to make adequate provision. When a mammalian encounters a situation which it cannot adequately meet by any of its innate or acquired adjustive mechanisms the reactive value of that situation is apt to be modified by a special type of activity which, in the human subject, can be most conveniently evaluated in terms of what the individual reports as his psychical reaction to it. It is often a matter of vital importance, not only in psychopathology, but in all other fields of medicine, to know just what reactive value a given stimulation has for the patient; and in many cases the patient can give this information by reporting his direct experience. The matter is almost as simple as this: Jones has just consulted me about a pain in his back, and has brought to me three recent reports from three reliable laboratories, each of which states that there is no evidence whatsoever that Jones has any impairment of his kidneys. Jones tells me that, having just come from the bedside of a friend who is dying of Bright's disease, he is convinced that his own pain in the back is due to this disease. I now know, as surely as I need to know, that his back pain and what he en-

countered in his dying friend's room have elicited in him certain psychical reactions *which he reports to me.* This knowledge is not a matter of speculative inference, and its value is qualified by only one possibility, viz., that Jones may be lying to me. From this point I can proceed objectively, and even check the truthfulness of my patient's report of his psychical reaction to the stimulations under discussion. He informs me that his back pain has acquired the reactive value of a menace to his life. I can study, experimentally and by purely objective methods, the different modes of human and animal response to life-menacing stimulations; and an adequately developed objective psychopathology will tell me how to proceed in my efforts to determine whether Jones, who hates his job and has a rich wife, is reacting indirectly to conditions which impel him to acquire the status of a physically impaired person or directly to conditions which impel him to divert his wife's attention from his adulterous behavior.

Watson's[22] plans for an unqualifiedly objective psychology which shall be adequate to the technologist's needs may be capable of ultimate fruition. On the other hand, the psychoanalysts may find —or scientific psychologists may find for them—a scientific way of demonstrating the psychical determination of all behavior, both normal and morbid. But as matters now stand I can see no other safe ground for the psychopathologist than that upon which the surgeon and the internist stand in classifying as psychical only those reactions which the patient reports as direct experience. In spite of my objectivist prepossessions I cannot escape the conviction that knowable and reportable psychical reactions—as contrasted with unverifiably inferable ones—have a special significance for psychopathology, but this can be stated simply enough. A patient's faulty estimate of a given stimulation may give to that stimulation a pathologic reactive value. Once it is reported to me, as a matter of direct experience, that such an estimate has occurred, I can proceed to an objective tracing of stimulation-response sequences without falling back upon a single concept that has to do with the psychical determination of behavior. Perhaps the whole matter can best be summed up by saying that, in my opinion, it is one of the most important aims of objective psychopathology to identify and give pathologic estimates of the reactive values that personal problems may obtain for nervous patients. At any rate, this has

been the chief objective of the studies in comparative psychology upon which the succeeding chapters are based.

In light of the above-defined considerations and of what follows in the text I feel justified in reminding comparative psychologists that we need in medicine a vast addition to our presently meager knowledge of the phylogenetic and ontogenetic antecedents of the adult human reactive equipment. We know, to some extent, why such intrasomatic responses as glycosuria, cardiac hypertrophy and leucocytosis occur, and much purposeful current research in appropriate fields of experimental medicine assures us that there will be an ever-increasing extension of such knowledge; but all this needs to be supplemented by investigations which shall explain—not speculatively, but by the patient methods of scientific research—the occurrence of such behavioristic responses as indirect and dysteleologic reactions to sexual stimulations, persistent, nonadjustive affective grievance reactions to petty impairments of personal advantage, the development of functional inferiorities, the substitution of hurtful compensatory for normal submissive reactions to personal limitations, and the remainder of a long list of pathologic reaction-types.

CHAPTER V

THE FOUNDATIONS OF PSYCHOPATHOLOGY

1. **Psychopathology a Part of Medicine.** That group of inseparably related technologies which we have in mind when we speak of "Medicine" has various common foundations, such as morphology, physiology, bacteriology, pathology and chemistry. But each technology—or specialty—has foundations which are peculiarly its own. The special foundations of psychopathology are neural morphology, neural physiology, endocrinology and behaviorism (comparative psychology). The first three of these special fields of inquiry will be briefly discussed in Chapter VI, and the remainder of the book will be devoted to findings and principles of behaviorism which have a special significance for psychopathology. Although future developments may show that behaviorism is of no greater importance to this medical specialty than are its three other foundations, the presently most fruitful method of approach to an understanding of nervousness is to be sought, in my opinion, in the methods, findings and interpretations of those natural scientists (behaviorists) whose special concern is the investigation of the behavior of animals, children and human adults.

This book is exclusively concerned with the kinds of nervousness that are not due to any known infections, intoxications or structural changes of the nervous system, that do not require institutional management and that the internist ought, with few exceptions, to accept as coming within his general field of therapeutic and diagnostic endeavor. It stresses the importance of behaviorism as a foundation for psychopathology because, as will be seen, the behaviorist regards the adjustive responses of the organism as a whole to its environment as reflecting the possession of physiologic properties which belong in the same category with those upon which the organism is dependent for its intrasomatic adjustments (e.g., metabolism, resistance to infection).

2. **Neural Morphology.** This has had an elaborate development along lines which render it of service to neurology, a branch of medicine which deals with sensible changes in neural substance;

but it affords only limited information as to the detailed structural bases of the adjustive functions upon which the organism as a whole is dependent for its adaptations to intrinsic and extrinsic stimulations. When one thinks of renal, hepatic or gastrointestinal functions and dysfunctions it is helpful to do so in terms of what he has seen in laboratories of anatomy and histology: to do so is to keep oneself oriented as to the structural bases of these functions. The vastly more complex nature of human behavioristic functions is matched, of course, by an equally complex neural morphology, hence the difficulty of obtaining a structural orientation in considering what happens, physiologically, when adjustive mechanisms are in function. It is estimated that the human brain contains approximately ten billions of intercalary neurons, each of which, we have reason to believe, is structurally separate from all others, and capable of entering into complex patterns with other neurons for distribution of neural energy on its way from recipient surface to responding gland or muscle. Nevertheless, the situation is more hopeful than, at first sight, it appears to be. There are orienting broad outlines of neural structure which any educated physician can easily acquire and keep in mind. These are presented in Chapter VI.

3. **Neural Physiology.** This has long been an important foundation of neurology, and within recent years its development has had a trend which holds promise of usefulness to psychopathology. The hints contained in James'[23] and Lange's[24] separately arrived at theory of the emotions and the much later published investigations of Sherrington[25] and Cannon[26] have led to a general conviction that exceedingly important phases of behavioristic functions are staged in those neural structures which have their functional points of reference in the thoracic, abdominal and pelvic viscera. This division of the nervous system, which is known as the *vegetative* or *autonomic,* somehow functions to determine a special distribution of bodily energy when the organism responds to any situation as to an emergency, i.e., as to conditions which call for the prompt removal of a disadvantage. When the vegetative division of the nervous system is thus engaged in emergency functioning there is not only an attending emotional or affective experience but actual interference with cardiac, gastrointestinal and other vegetative functions. We can therefore obtain, to some extent, both a struc-

tural and a physiologic orientation as to what happens, e.g., to account for the dry jaws, pounding heart and "tight feeling" in the abdomen which accompany certain vivid emotional reactions. When a frequently recurring situation possesses a relatively feeble emergency reactive value, and possesses this value only because the individual has habitually inappropriate estimative (psychical) reactions to it, his somatic emergency responses are apt to be subacute, nonadjustive as to the situation, and inordinately prolonged. This means, of course, prolonged interference with vegetative functions.

4. **Endocrinology.** We have here what promises to be one of the most important of the special foundations of psychopathology. We already know that when a mammalian encounters an emergency a part of its total reaction thereto is staged in certain of the endocrine glands. Cannon[27] has shown that at least two of these organs —the thyroid and the adrenals—function in a special way to prepare the mammalian to meet emergencies with increased promptness and vigor of adjustive effort. It is interesting to note in this connection that a serious hyperthyroidism sometimes directly follows encounter with a shocking situation. It is possible that in time endocrinology will afford an adequate explanation of the pathogenic importance of persistent, nonadjustive affective reactions to baffling personal problems.

It is unfortunate that there has sprung up a bastard endocrinology which is based in part upon pure speculation and in part upon uncritical interpretations of clinical experience. The nonmedical student of behavior and even the medical internist who is not in a position to know "who is who" in medical literature are apt to be misled by reported "findings" in endocrinology which have no adequate foundation in fact.

5. **Behaviorism.** This awkward term is the presently least objectionable one that we have for the designation of an exceedingly important special foundation of psychopathology. Its major concern is with those properties of the organism upon which adjustments to environmental conditions are dependent. It may properly be regarded as a branch of physiology because it deals with the nonpsychical, purely physiologic determinants of behavior and of psychical activities in precisely the same way that the physiology of metabolism, or of immunization to bacterial aggression, or of tissue-repair deals with the determinants of what occurs when the

organism ingests cane sugar, or is invaded by *streptococcus,* or sustains a fractured femur: certain fairly well understood, explicitly identifiable properties of the human organism account for the fact that cane sugar is split up in the body and stored in the liver as glycogen; that in certain types of streptococcic infection there is a consequent leucocytosis, and that fracture of the femur is followed by the familiar reparative processes which restore the continuity of a broken bone. The sugar, the streptococci and the external agencies that broke the femur are the respective *extrasomatic determinants* of these responses of the organism, and as such are material for the physiologist's consideration. The tendencies of the organism to react to the ingested sugar, or the bacterial invasion or the stimuli derived from the broken bone in the several ways just enumerated are the somatic determinants, respectively, of the changes effected by the body in the chemistry of cane sugar, of the leucocytosis and of the reparative processes. The chief practical interest of these responsive properties of the organism is to be sought in the fact that under knowable conditions of stimulation they are set in function, and that their modes of functioning can be studied experimentally and, to some extent, controlled.

Now the responsive properties (reactive tendencies) of the organism in which the behaviorist is specifically interested are those which act as the most proximate physiologic determinants of behavior and psychical activity. Some of these properties are so easily recognized that all men know about them and take them into practical account. Thus it is known to everybody that man is so organized that when an external agency tears or burns his skin he experiences pain (psychical activity) and withdraws himself from the injuring agency (behavior). In this case the behaviorist recognizes a reactive tendency which he defines as follows: it is a basic property of the human organism to react to destructive stimuli by experiencing pain and making appropriate withdrawal movements. Other types of responsive properties are not so easily recognized. Thus, when an unmarried gentlewoman of forty takes to her bed, complains of great exhaustion and many physical discomforts, and reports to her physician that her mind is almost constantly occupied with thoughts and feelings which have reference to many petty encroachments upon her advantage by members of her family;

and when we know that these symptoms are indirect reactions to acts of masturbation which cause her great mental discomfort whenever she fails to inhibit direct psychical reaction to such acts, it is difficult to regard her behavior (the going to bed, etc.) and her mentation (the persistent and unwarranted sense of ill-usage, etc.) as determined by the functioning of physiologic properties which differ only as to complexity from those to which we ascribe simple pain responses. We are willing to ascribe the determination of the initial response to a burn or a scalpel cut to the conjoint action of the stimuli which initiate it and the functional modes of the neural structures which receive and react to the incident stimuli; but our age-old tendency to assume that ideas, feelings and complex acts are psychically determined incline us to posit a mysterious underlying mind to account for what the individual cannot explain in terms of consciously received information or consciously elaborated intention. Psychopathologists seem to have overlooked the possibility that such pathologic responses as those of the masturbating spinster may have a scientifically knowable and manageable *physiological determination* fundamentally like that to which we ascribe the abrupt movements of withdrawal and the reported pain of a patient whose abscess is being cut. Perhaps a further analysis of these two illustrative cases will make the behaviorist's position a little more real to those who have been brought up on psychomorphic interpretations of all complex human behavior and mentation:

1. When a surgeon cuts into an abscess without using an anesthetic the patient promptly reports that he feels pain and withdraws himself from the knife. The psychical reaction (the patient's awareness of pain) and the behavior (his movements of withdrawal) are conjointly determined by the cutting and certain definite structural and functional properties of his nervous system (responsive properties or reactive tendencies). His tendency to experience the pain and to withdraw himself under such conditions of stimulation is taken into practical account by the surgeon, who would find it burdensome and confusing to introduce into his explanations any other kind of psychical activity than that which is reported by the patient as direct experience.

2. Certain visual, auditory, olfactory and peripheral stimulations, acting in conjunction with incretions derived from her ovaries, hypophysis and, possibly thyroid, determined the following menta-

tion and behavior in the spinster alluded to above: (1) the construction of pleasing erotic phantasies, and (2) the act of masturbation. This was followed by (1) a direct psychical reaction which she describes as an intolerable sense of shame, (2) a cessation of this intolerable sense of shame before it has led to direct and adequate adjustive activities and (3) hypochondriacal complainings and a very irritable, cranky, aggrieved attitude toward her family. One need be neither a psychoanalyst nor a behaviorist to say that this patient, having masturbated and having found the consequent sense of shame to be intolerable, creates a diversion for her own mind by ascribing her general sense of discomfort to nonexistent ailments and grievances. If we find that she did not consciously intend to create this diversion we say that it was unconsciously determined. If we really mean by this that her hypochondriacal complainings and her unwarranted sense of grievance (the diversion) are nonconsciously determined indirect reactions to her masturbation and to her primary psychical reaction thereto we are on safe ground. But if we mean by "unconsciously determined" anything suggestive of unconscious psychical determination we are unnecessarily departing from safe ground. We know that certain experienced and reported psychical reactions are apt to be followed by certain responses of a combined physical and psychical nature, but there are verifiable behavioristic principles which make it unnecessary for us to assume unexperienced, nonreportable psychical activities to account for such responses.

Among the experiments that are discussed in subsequent pages of this book is one series which discloses the fact that when a *pithecus rhesus* or *pithecus irus* monkey has been outbluffed by an enemy he tends to react indirectly to the situation in a manner which is characteristic of his species. His indirect reaction to stimulations derived from being outbluffed are of a kind to "save his face," and closely conform in type to the indirect grievance reactions of masturbators. In fact, comparative studies of human and infrahuman primate behavior have made possible the explicit identification of a primate responsive property which satisfactorily accounts for the "unconsciously determined" symptoms of the masturbator who is very hypochondriacal and who seeks and cherishes innumerable petty grievances. This responsive property can be experimentally isolated and given an objective evaluation which places it in the

same general category with the responsive properties which account for leucocytosis or elevation of bodily temperature. This point, which will be given fuller discussion in subsequent chapters, may, perhaps, be made to stand out still more clearly by a final allusion to the masturbating spinster: her reactions and those of an outbluffed monkey are capable of the same general teleologic interpretation. *Direct* psychical and overt reaction to a weak yielding to a degrading impulse would not only be painful, but would render it difficult for a mature, dignified gentlewoman to maintain her status as a person to be taken seriously and respectfully by her fellows, hence the value of the *indirect* reactions. Likewise, direct reaction to the situation by a monkey who has just been outbluffed would seriously interfere with his status in the tribe as a dominant male—a consideration which enables us to ascribe a conservative value to his indirect reactions.

Psychopathologists and, particularly, psychoanalysts, have indulged in a good deal of futile scolding in protest against Titchener's[28] dictum that psychical activity has a dimensionality entirely separate from physical and physiologic activity, and that we cannot logically speak of interaction between mind and body; but the fact remains that after the physician has made a more or less roughly biologic estimate of his patient's reports of direct experience (psychical activities) he cannot do much more about it in a scientific way. Jung,[29] it seems to me, takes a much more logical position than that of most psychoanalysts when he quite honestly proclaims that psychoanalytic methods lie wholly outside the realm of medicine and of the experimental sciences.

This brings us to a consideration of psychoanalysis, which has won the respectful admiration of so many physicians—and given them a sense of utter incapacity for grasping the principles of psychopathology. A British statesman of a generation ago is said to have exclaimed that if there were no Austro-Hungarian empire it would be necessary to invent one. The same may be said of psychoanalysis: as far back as the days when the Athenians roared their delight in the biting truths of Aristophanes' comedies the common sense of mankind assumed that somehow our sayings and doings, our habitual cravings and aversions, and whatever else we *like* to ascribe to the activities of our minds as we know them directly, reflect the operation of forces which are hidden in the

personality far more than they reflect our consciously elaborated purposes. It is truly comical to see how the other fellow is fooled by his unwillingness to believe that his behavior and the movements of his consciousness are determined by anything else but motives of which he is clearly aware, and which he deliberately forms with reference to environmental conditions. If my thinkings and doings are bizarre, inappropriate or otherwise inconsistent with my pretensions, it is because I am drunk or ill, or under the influence of an hostile external agency—never (when I am at myself) because motives of my own of which I am unaware are driving me in ridiculous or unworthy directions.

Until Freud proclaimed the importance of unconsciously held "desires" and proposed methods for their disclosure we psychopathologists were a futile lot, and almost wholly unresponsive to the broad hints offered us by folk-lore and the Shakespeares and Goethes and Brownings of the world. Psychologists were equally futile. From Aristotle to Wundt and Titchener they failed to see that we must somehow make behavior and the individual's reports of his mentation disclose their endogenous as well as their exogenous determination. Long before Freud had made his truly great discovery scientists had found it profitable to assume that rocks and bits of living tissue, with their presently and directly sensible qualities, could be regarded as historic records of their own determination. It is probable that Freud pursued the only course that could have so quickly and definitely brought us to a realization of the value of applying the methods of geology and biology to the problems of human behavior. He sensed that the individual's acts, thoughts, feelings, dreams, etc., may be read as geologists read rocks, viz., as records of their own determination; and he had the courage, not only to engage in boldly imaginative constructions in the reading of them, but to proclaim what seemed probable to him as scientifically established findings. If Freud had given physiologic rather than mystically psychologic values to the nonconscious endogenous determinants of behavior and mentation he would have spared us the necessity of extricating ourselves —as sooner or later we must—from a quagmire of mysticism and allegory; but if he had been possessed of the scientific temperament we should probably have been denied the benefits of his constructive imagination.

There can be no doubt that the nonconscious endogenous determinants with which Freud deals function as though they were something like the psychical forces which he conceives them to be. They do, somehow, fool us into saying and doing and dreaming indirectly the things that we cannot bring ourselves to do and say and dream directly as expressions of consciously elaborated intention. The same is true (if we exercise a little imagination) of the endogenous determinants of the purely vegetative activities of the gastrointestinal apparatus, and it is possible that a physiologist-Freud with Freud's boldness of imagination might anticipate many of the most important discoveries of the coming half-century by elaborating a psychomorphic account of vegetative functions. One is reminded, in this connection, of Binet's[30] account of the mental life of *paramecium*. This remarkably intelligent little unicellular animal was in the habit, he found, of foregathering in conventions with its fellows. After tribal affairs had been attended to the convention would adjourn, and each member would go about its separate business. Jennings[31] found that these foregatherings and adjournments could be adequately explained in terms of positive reactions to weak, and negative reactions to strong, CO_2 solutions. Nevertheless, Binet's observations were in the main accurate, even though his interpretations might have been seriously misleading had they been taken seriously by comparative psychologists.

Freud has told us, in effect, that endogenous urges are often inhibited from direct expression in awareness and behavior, and that when this occurs they are apt to find indirect expression as the symptoms of nervousness. His psychomorphic interpretations of the facts which led him to this really great discovery are, in my opinion, misleading and subversive of the methods and concepts which have made possible the substitution of natural science for the semi-mystical, semi-philosophical, largely speculative, essentially unverifiable dogmas of an unscientific age. The succeeding chapters will expose the grounds upon which I base the opinion that it is possible to abandon unverifiable psychomorphic interpretations of nervousness without thereby sacrificing anything of value that psychoanalysis has to offer.

CHAPTER VI

NEURAL MORPHOLOGY. NEURAL PHYSIOLOGY. ENDOCRINOLOGY*

1. *The Intention of the Present Chapter.* The average medical student is so appalled by the difficulty of acquiring a detailed knowledge of neural anatomy and histology that he contents himself with "cramming" an examination-knowledge of these subjects. Consequently, he goes through his medical career with only a hazy knowledge of even the bare outlines of neural structure. This, in turn, permits only a limited understanding of neural function. Endocrinology, on the other hand, has so recently come into prominence, and there is so much uncertainty as to what may be regarded as conclusively established by trustworthy methods of investigation, that the conservative physician is inclined to suspend judgment as to its present usefulness. A brief review of these subjects may serve to sharpen and verify what the medical reader already knows in a general way, and to improve his orientation as to the writer's explanations of nervousness.

2. *The Neuron* is the structural element of the nervous system, and each neuron (with certain possible exceptions which need not be noted here) is a separate morphologic entity in the sense that it is not structurally connected with any other neuron.

3. *The Cell Body* is that part of the neuron which contains a nucleus, and from which thread-like dendrites and an axon appear to be given off as prolongations. It is an inescapable conclusion that it has, in addition to self-nutritional and conductive functions, the capacity for storing energy-releasing substances, which when tapped by incoming stimuli, add to the energy already contained in the stimuli.

4. *The Axon* of a neuron is seen under the microscope to leave the cell body as a single fiber. It carries nerve impulses from the

*Dunlap's[32] *Psychobiology* so clearly and simply presents the outlines of neural morphology that I have found it useful for the purposes of this chapter to copy, with various abridgements and omissions, but often literally, parts of the text of his book. Quotation marks have been omitted to avoid awkwardness of presentation. Stile's[33] *The Nervous System* has also been drawn upon in an effort to condense as much information as possible within a short chapter.

neuron of which it is a part to gland or muscle cells which it activates, or to the dendrites of neurons which lie beyond it. The axon may give off many branches. It is to be remembered that each neuron has but one axon, and that the axon is a discharging fiber.

5. *Dendrites* are fibers which lead to cell bodies in a morphologic sense, and which receive stimuli and pass them onward toward the cell bodies with which they are in structural connection. A neuron may have many dendrites.

6. *Three Kinds of Neurons Are Recognized,* viz., (a) *afferent* (sensory or centripetal) neurons, which receive stimuli directly from the nonneural structures to which their dendrites extend; (b) *efferent* (motor or centrifugal) neurons, which transmit impulses to muscles or glands, and (c) *intercalary* (central, intermediate or associative) neurons, which transmit impulses from neuron to neuron.

It is of importance for a clear understanding of physiologic explanations of human behavior to hold in mind the fact that the human body contains an inconceivable number of individually separate connecting links between the receiving and the discharging neurons. The complexity of conducting relationships of the intercalary neurons to one another and to the afferent and efferent neurons between which they are interposed make possible the distribution of energy initiated by incoming stimuli according to dynamic patterns which find behavioristic representation in what the individual says and does in response to situations which incite him to adjustive effort. Intercalary neurons are referred to as *commissural neurons* when they pass from one side of the brain or cord to the other, and as *association neurons* when they lie exclusively in one side of brain or cord.

7. *A Synapse* is the point of contact between two neurons. This contact is between the discharging axon of one neuron and the receiving dendrites, (or dendron) of another neuron in most cases, but the tufted end of an axon of one neuron may terminate about the cell body of a second. It is of great theoretic importance that, with a few possible exceptions, there is no continuity of structure between any two neurons, and that the establishment of synapses between these separate structures is essential to conduction of nerve impulses from the point of stimulation to the responding gland or

muscle. During the last decade of the last century Dercum,[34] Rabl-Rückard,[35] Lepine,[36] Duval,[37] Azoulay[38] and Pupin[39] advanced theories to the effect that the cortical neurons have some power of movement in their terminal processes resembling those of amoeba. This theory contained the suggestion that hysterical paralyses may be due to a retraction of cortical neurons at points where, normally, synapses ought to be established to permit voluntary teleologic movements of skeletal muscles. Behaviorism (as comparative psychology) is on familiar ground when it deals with living cells which have the power of independent movement. Loeb[40] and Jennings,[41] among others, have not only shown that such cells, as represented by the protozoa, tend to withdraw themselves from disadvantageous stimuli, but that their movements are largely calculable in terms of physical and biochemical processes. If some cortical neurons actually belong to this class of cells the task of tracing the phylogenesis of adaptive behavior from the amoeba to man becomes a by no means phantastic undertaking. It is interesting to note in this connection that Kappers'[42] more recent contributions to neurology go far toward explaining it in terms of known embryologic, physical and biochemical principles. In 1890 Wiedersheim[43] reported that he actually observed independent nerve-cell movements in a live entomostracan.

8. *A Receptor* is a point at which stimulation is received for conduction onward through (a) the dendrites, cell bodies and axons of afferent nerves, (b) thence through synaptic connections with the dendrites of any intercalary neurons which may pick up the onward-flowing nerve impulse, (c) on through the intercalary neurons to their discharging axons, (d) again through synaptic connections—this time with receiving dendrites of (e) efferent neurons and, finally, to (f) muscle or gland cells into which the axons of the efferent neurons discharge the nerve impulse.

9. *An Effector* is the gland or muscle which is the final recipient of the nerve impulse from the discharging efferent neuron.

10. *A Reaction-Arc* is a compound, coordinated chain of conducting structures such as have just been described as linking receptor with effector. It is the unit of behavioristic analysis when the behavioristic seeks to orient himself as to the intimate structural and functional bases of adjustive response. It is gratifying to note that many important principles which govern the establishment and

functioning of reaction-arcs have already become apparent in the findings of experimental behaviorism; e.g., Pawlow[44] and Bechterew[45] have shown that if an initially indifferent stimulus frequently occurs simultaneously or in close temporal relation with a stimulus which typically traverses a given reaction-arc, that reaction-arc will be open for some time thereafter for the conduction of the indifferent stimulus, even when it occurs alone. Thus, Watson[46] found that if a monochromatic light be displayed to a subject at the moment his foot is electrically stimulated he comes, in time, to withdraw his foot when only the light is displayed. No normal person will, ordinarily, jerk his foot upward merely in response to the flashing of a green light, but such a movement is a quite normal response to an unexpected electrical shock. The reaction-arc traversed by a stimulus derived from an electrical shock to the foot is not ordinarily open to a stimulus derived from a green light; but among the principles which govern the formation and functioning of reaction-arcs there is one (that of the conditioned reflex or conditioned reaction) which enables us to predict that under known conditions a green light may acquire the reactive value of an electrical shock to the foot. This one principle can be adduced in explanation of certain nervous disorders which usually impress the internist as hopelessly "psychologic" as regards their etiology and therapeutic management. Its application in concrete cases has been given in Chapter II. The several immediately following chapters of Part II contain discussions of other behavioristic principles which I believe my own investigations to have disclosed.

11. *The Somatic Division of the Nervous System* is essentially composed of those neurons which have their cell bodies in the brain, cord, spinal ganglia, cranial nerve-root ganglia and sense organs. It is not directly concerned in the regulation of vegetative functions, hence its impairment by injury, infection or misuse on the part of its owner does not necessarily have, in a given case, other morbid consequences than impaired receptivity of environmental stimulation or impaired function of striped muscles. Thus blindness due to the ingestion of wood alcohol, the ataxia of tabes and similar disabilities reflect injury to the somatic division. On the other hand, it is within this part of the nervous system that the reactive value of many complex inwardly and outwardly arising stimuli is determined. It would be irrelevant to the main inten-

tion of this book to include here an outline of brain and cord morphology.

12. *The Autonomic Division of the Nervous System* is made up of afferent neurons which have their dendritic beginnings, and of efferent neurons which have their axonic endings, in glandular and smooth-muscle cells. Roughly speaking, it supplies the structures over which the organism has no direct voluntary control. Their cell bodies lie outside the cord, brain, spinal ganglia, cranial nerve-root ganglia and sense organs. The autonomic cell-bodies are found within ganglia which lie behind the eyes, the cardiac-wall ganglia, those which are clustered about the arteries and the ganglia that are in connection with the digestive organs; in the collateral sympathetic ganglia (superior mesenteric, inferior mesenteric and solar), and in the two great chains of sympathetic ganglia. The synaptic connections of the autonomic neurons are made, as a rule, within these various ganglia. The autonomic division of the nervous system has various subdivisions, each of which is separately described in the following paragraphs.

13. *The Sympathetic Subdivision* is composed of the following ganglia and of the neurons which have their cell bodies therein:

(a) A ganglion for each of the spinal nerve-roots from the fifth thoracic to the third sacral.

(b) The stellate ganglion, which is connected with the first four thoracic roots.

(c) The two cervical ganglia (inferior and superior), which are connected with the eight cervical roots.

(d) The three collateral ganglia—inferior and superior mesenteric and solar,—which lie near the major subdivisions of the aorta.

14. *Third-nerve Autonomic Fibers,* which are axonic extensions to the ciliary ganglion, whence are directly derived impulses for the activation of the ciliary muscles and sphincters pupillae of the eyes.

15. *Seventh-nerve Autonomic Fibers,* which are dendrites from cell bodies in various cranial ganglia. They lead to the sublingual and submaxillary glands, various glands of the buccal and nasal cavities and to the blood vessels of the tongue. These dendrites sustain an *efferent,* hence anomalous relation to the cell bodies from which they proceed.

16. *Ninth-nerve Autonomic Axons and Dendrites of Cell Bodies in the Medulla.* They run to the otic ganglion, whence pass axons to the parotid gland.

17. *The Vagus Division of the Autonomic.* This is formed by the tenth cranial and autonomic fibers from the eleventh cranial nerves, and each vagus is a purely autonomic afferent and efferent nerve. Its afferent fibers are derived from the jugular and vagus-trunk ganglia; and its efferent fibers from ganglia which are located in viscera supplied by this nerve. The distribution of the afferent fibers of the vagus is not clearly known; its efferent distribution is to the smooth muscles of the esophagus, stomach, small intestines and bronchial tubes; to the gastric glands, to the heart and, probably, to the pancreas.

18. *The Pelvic Nerve* (*Nervus Erigens*) is made up of autonomic axons which come from the spinal cell-bodies. They terminate in the pelvic ganglia, from which are supplied the bladder, colon, rectum and sex organs.

19. *The Plexuses of Auerbach and Meissner* are independent nervous systems which have no known direct connections with the cerebrospinal apparatus. They lie within the walls of the alimentary canal throughout its whole extent, and render possible direct response of the alimentary *muscularis* to locally derived stimuli; i.e., they supply the structural conditions for reflexes which function independently of ganglia in which synaptic connections are made between autonomic and somatic neurons. They are not properly regarded as part of the autonomic division.

20. *The Autonomic Ganglia* as described above, taken as a whole, may be regarded as relay-stations between the cord-brain apparatus and the viscera. They distribute the afferent and efferent impulses which reach them from the viscera and the cord-brain apparatus, and thus play an important rôle in the integration of vegetative and behavioristic functions.

21. *Summary of Autonomic Morphology and Physiology:* Those of us who read with hopefulness the contributions of Eppinger and Hess[47] to visceral neurology felt that the concepts suggested by the terms *"vagotonia"* and *"sympathicotonia"* would enable us to obtain explicit orientation as to the somatic consequences of the more common types of dysteleological behavior. These and subsequent contributions to visceral neurology have been so frequently

controverted by laboratory investigators that we whose research activities lie in closely related but separate fields have come to suspect that if semi-speculative material be abstracted from what this branch of physiology has to offer not much of immediately practical value remains. Cannon[48] sums up the situation as follows:

"The nerves may have, in relation to the (endocrine) glands, just as in relation to the heart, a tonic action for routine purposes; and at times of critical need they may have a special, or what I have called an 'emergency' function, capable of rapidly mobilizing the bodily forces, internal secretions included, for the welfare of the organism as a whole. * * *

"The general arrangement of the sympathetic division is favorable to diffuse and widespread action in which a distributed chemical agent could participate. The vagus endings and the endings of the other parts of the cranial autonomic division lie in or near the organs innervated, and are therefore favorable to separate and discriminating action. By means of general diffuse action of the sympathetic, and the opposite particular action of the parts of the cranial autonomic supply, every variety of change is provided for. All the viscera can be affected simultaneously in one way or the other through increased or decreased tone of the sympathetic division. And any special organ can be separately affected one way or the other through increased or decreased tone in the special nerve of the opposed cranial division that is supplied directly to the organ. *The sympathetic is like the soft and loud pedals, modulating all the notes together; the cranial autonomic is like the separate keys.*" (Italics are mine.)

The situation, from the standpoint of practical psychopathology, may be roughly summed up as follows: The heart, the gastrointestinal apparatus and, probably, the endocrine glands are to an extensive but as yet not exactly determined degree self-regulatory, and by this I mean that they are self-regulatory *independently of impulses received from the cranial autonomic, sympathetic and pelvic-nerve subdivisions of the autonomic division of the nervous system.* Whenever the individual reacts to a situation as to a disadvantage to be angrily or aggrievedly or sorrowfully or anxiously combated, or as to an advantage to be eagerly and strenuously sought, the autonomic division so changes the innervation of the vegetative organs as to render their activities subservient to the need of the

body to make appropriate adaptations as a whole. It "soft pedals or loud pedals" the organs supplied by the sympathetics through these neural structures, and effects special changes in particular vegetative organs by playing upon particular "separate keys" of the other autonomic subdivisions. This involves an interference with orderly vegetative functions: the heart beats too rapidly or too slowly or irregularly in consequence; the motor and secretory functions of the gastrointestinal apparatus are unduly retarded or accelerated; particular endocrine organs increase or decrease their optimal rates of incretory functioning, etc. Just how, in detail, all these things come about is a problem, the solution of which we may patiently await: research in visceral neurology and endocrinology is slowly teasing out the facts that may be expected to refute many and confirm a few of the alluring speculations that are currently offered.

22. *The Present Status of Endocrinology:* At the 1922 meeting of the American Medical Association, Barker,[49] Cannon,[50] Aub,[51] Carlson[52] and Hoskins[53] gave a series of addresses which admirably summed up what endocrinology had thus far achieved by way of offering the internist reasonably safe guides to therapeutic and diagnostic endeavor. A careful sifting of the statements made by these five investigators leaves behind a meager residue of unanimously accepted findings and interpretations. Carlson[54] made the following important generalization:

"The question of *endocrine hypofunction and hyperfunction through direct nervous control* is of great practical and theoretical importance. (Italics mine.) But despite the great amount of painstaking work in this field (and disregarding the still greater amount of speculation), it must be recognized that the entire question is an open one, except for the suprarenal medulla. Let us hope that the future will record better controlled observations and less speculation. But it seems to me that this statement is permissible: Endocrine secretory nerves, if present, play a minor or negligible rôle in the normal and pathologic activity of the glands, otherwise demonstrable disturbances should be produced by denervation of the glands. It should of course be recognized that extreme changes in nervous activity may induce endocrine hypofunction or hyperfunction indirectly or by way of the blood through changes in metabolism."

To offset this negative contribution Cannon[55] made a statement of sufficient positive value to the internist in quest of explanations of nervousness to justify its quotation in full:

"We have evidence that at least *the suprarenal medulla, the liver and the thyroid gland are subject to sympathetic nerve impulses.* (Italics mine.) Stimulation of the splanchnic nerves causes a discharge of epinephrin from the suprarenal glands into the blood stream in an amount which markedly affects other organs. Such stimulation also liberates sugar from the liver. Uridil and I have shown that under stimulation the liver yields another substance which raises blood pressure and causes acceleration of the denervated heart. Furthermore, Smith and I recently described experiments that confirm earlier work and testify to the efficacy of cervical sympathetic stimulation in calling forth a secretion from the thyroid gland.

"It is well known that the sympathetic division of the autonomic system is brought into action by pain, asphyxia and great emotional excitement. That the three endocrine organs mentioned above may be strongly influenced by such conditions has been proved by numerous observations made both on experimental animals and in clinical cases. Extra epinephrin circulating in the blood when a sensory nerve is stimulated or signs of rage are evoked can be demonstrated by a faster beat of the denervated heart. Emotional hyperglycemia or glycosuria, due doubtless to extra sugar freed from the liver, has been observed in cats disturbed by barking dogs, in students undergoing severe examination, in aviators and in citizens terrified by bombardments and air raids. The thyroid likewise may be stimulated by painful and asphyxial conditions. Smith and I were able to obtain quite as striking results by such stimuli as we obtained by direct excitation of the cervical sympathetic strand. The considerable number of cases of exophthalmic goiter reported as occurring in consequence of stressful circumstances during the war may perhaps be taken as additional indication of an influence on the thyroid gland exercised by the sympathetic nervous system."

Barker[56] contributes a rather vague expression of opinion toward which most of us in psychopathology have been inclined by Cannon's researches. The following is quoted from Barker's address:

"Either by direct stimulation of the nerve mechanisms concerned

or by indirect influences on these mechanisms through the autonomic nervous system, endocrine products undoubtedly play an important rôle in the physiologic processes that are conceived of as running parallel to certain of the psychic functions, especially those that we designate as the affective and the conative. This relationship of the incretions to the psychic mechanisms would seem clear from clinical observation of pathologic emotivity and of pathologic behavior observable in various endocrine disorders, notably in exophthalmic goiter and myxedema."

With a few well-known classical exceptions, such as the use of thyroid extract or Kendall's thyroxin in hypothyroidism and of pituitrin and adrenalin in various fields of medicine, organotherapy is a too hotly disputed subject to merit much discussion in a book of this scope. According to Hoskins'[57] calculation the theoretical number of endocrinopathies is 10,077,696. It may be that my own almost uniformly disappointing experiences with organotherapy in the treatment of nervousness have been due to a failure to diagnose the right endocrinopathy. Hoskins'[58] remark that "Parlor endocrinology is even displacing parlor Freudism" is a reminder of how easy are the laurels of those who tickle the public imagination with lurid endocrinologic and psychopathologic speculations.

CHAPTER VII

COMPARATIVE STUDIES OF REACTIONS TO BAFFLING DISADVANTAGES

1. *Definition of the Problem Investigated:* It is a traditional assumption that the nervous patient's habitual modes of responding to various baffling disadvantages which enter into his life are important determinants of his nervousness: common-sense interpretations of experience ascribe the inner tension, morning lassitude, easy fatigability, "nervous" headaches and insufficiencies of gastrointestinal function to maladjustive responses to such disadvantages. These nonscientific explanations of nervousness and of its somatic consequences are more or less consistent with even the most conservative scientific opinions as to the possibility of autonomic interference with vegetative functions during moments when the organism must concentrate all of its adjustive forces to overcome externally arising disadvantages. Herein are contained many problems for students of visceral neurology and endocrinology—problems which are currently inviting not only a good deal of more or less futile speculation, but also much patient and valuable research. The situation also contains some important problems for behavioristic research. One of the problems that has engaged my attention is this: what types of reaction to baffling situations do mammalians in general—both human and infrahuman—present when confronted by baffling disadvantages? What light, if any, would such information throw upon the maladjustive reactions of nervous patients?

2. *The Hamilton*[59] *Method of Investigating Reactions to Baffling Disadvantages:* Yerkes',[60] Hunter's,[61] Cole's[52] and my own methods of studying behavior represent departures from Thorndike's[63] puzzle-box methods, each of which has its special merits, but since mine was devised for the study of problems which come more specifically within the field of experimental medicine than do those of the other three investigators, it will be the only one described here. This method is fully described in previous publications, hence only a brief account will be given here. It consists in imprisoning

the subject within an enclosure from which there are four apparently possible places of exit, but from which escape can be effected during any given trial through only one of these places. The situation is, for the imprisoned subject, somewhat similar to that which would obtain for a convict if he were to find himself alone in a prison yard which has four gates leading to the outside world and freedom, any one of which gates may prove, on examination, to be either locked or unlocked.

My method requires three of the four *apparently possible* places of exit to be *actually impossible* of exit during any given trial, and requires the one proper-place-to-try-for-exit to vary from trial to trial in such a manner as to render it impossible for even an adult human subject to avoid a good deal of baffled effort. The average adult human subject will experience baffled effort in his efforts to escape from the enclosure in two-thirds of a sufficiently large number of trials to overcome the factor of chance successes. Since the one right place to try for exit is never the same for any two successive trials, there is opportunity for displaying ability to reason. Each of the subjects investigated, with the exception of one child and one gopher, was given ten trials daily for ten successive days.

3. *List of Subjects Used in Experimental Studies of Baffled Reactions:* Eighty-seven mammalian subjects, belonging to twelve different species were used in these experiments. These were distributed as follows:

Human subjects, ranging in age from 26 months to maturity	31
Monkeys and baboons (3 different species)	10
Dogs, ranging in age from 26 days to maturity	16
Cats, ranging in age from 56 days to maturity	5
Horses	1
Mice	1
Gray rats	5
Black rats	4
Albino rats	8
Gophers	6
Total number of subjects	87

Some of the monkeys were given additional 100-trial series, which brought the number of times the experimental situation was presented to the various subjects to a total of 9,130.

4. *General Survey of Results:* One generalization which holds good for the human as well as for the animal subjects of these ex-

periments is this: a mammalian's first or first few encounters with an unfamiliar and baffling type of disadvantage usually evokes a reaction which can be identified as one of the innately determined reaction-types to which we commonly refer as instinctive responses. Failure to overcome or escape the disadvantage means, of course, baffled adjustive effort, and this becomes, in itself, a partial determinant of subsequent responses. The value of my method for the purposes for which it was devised was largely contained in the circumstance that it was not conducive to the formation of specifically adaptive habits. The baffled subjects disclosed, in addition to their initial instinctive activities, five different general types of reaction to the experimental situation. Only one of these reaction-types could be classified as a rational adaptation to the baffling. Each reaction-type is separately discussed in the paragraphs which directly follow.

5. *Persistent Repetition of Nonadjustive Activities:* This type of reaction consisted in repeated efforts to escape through an impossible place of exit during a given trial; or in trying a group of two or three impossible places in a fixed order again and again, or in persistently avoiding the untried (for a given trial) possible place. Thus, if exit number 4 were the right place to try during a given trial the subject might try exit number 2 many times before he would investigate the possibility of escaping through exits 1, 3 or 4; or he might try exits 2, 1 and 3 in the order given many times without trying exit 4 once; or, finally, he might persistently avoid number 4 in his wandering about the enclosure in quest of a place of exit.

This tendency persistently to repeat a nonadjustive response to a baffling disadvantage was isolated in the behavior of individuals of all twelve of the mammalian species studied. It was most frequently apparent in the behavior of the rodents and least frequently so in that of the mature human subjects. Various conditions were found to be conducive to this type of response. The youngest subjects and those which stood lowest in the phyletic scale displayed, as a rule, a more marked tendency in this direction than did the older and racially higher subjects. The youngest child, the youngest dog and the youngest cat gave the highest percentage of the reactions under discussion of any members of their respective

groups. The gophers had the highest percentage of such reactions of all species.

The incidence of strong adventitious stimuli, as when a child or animal was distracted by some intercurrent event while seeking his escape from the enclosure, favored the exhibition of persistently repeated nonadjustive activities. Whenever the stimuli derived from the experimental situation had a feeble (low intensity) reactive value for the subject from any cause whatsoever the same held true. *The factor most conducive to the exhibition of persistent repetition of nonadjustive activities was any concurrent emotional response, whether this was due to the baffling as such or to adventitious stimuli.* A subject which seldom or never manifested this tendency under ordinary conditions would stupidly return again and again to a blocked exit place if anything occurred to excite him.

6. *Clinical Manifestations of the Tendency to Persistent Repetition of Nonadjustive Activities:* The significance of the fact that this tendency is importantly a part of the mammalian reactive equipment and that it lends itself to experimental examination becomes apparent when we take into account the fact that it is present to a striking degree in the behavior of perhaps the majority of nervous patients. I invited attention to this fact in 1910,[64] in an effort to explain the symptoms of certain neurasthenic syndromes in terms of Wundt's[65] tridimensional theory of the feelings, and during the psychopathologic survey of 1921 I found that 50.5 per cent of all patients who presented themselves for the diagnosis and treatment of nervous disorders were exhibiting this type of nonadaptive reaction to an apparently pathologic degree. The nervous woman who reacts to her husband's infidelity or his lack of sympathy, or to some other grievance-inciting disadvantage, and who repeats the same type of reaction endlessly without effecting terminative adjustments thereto, will serve to illustrate the point that I have in mind. The medically important feature of her futile behavior (which may be taken to include both her mentation and her overt responses) is her manifestation of *persistent, nonadjustive affective reactions* to a situation which baffles her and to the baffling itself. We may safely assume, I believe, that such a patient is reacting to the troublesome situation as to an emergency, and that this involves autonomic interference with various vegetative functions. Locke's[66] still suggestive definition of anger reminded me long ago that there

is reason to believe that a sense of grievance is the psychical component of a low-intensity anger-reaction which owes its undue persistence largely to the fact that it is currently subjected to inhibitions which prevent it from completing itself in terminative overt activity. It is also my belief that many other subtly defined affective experiences of our nervous patients may likewise be regarded as the psychical components of fear, pain, jealousy, privative and other types of emergency reaction. It is probable that most, if not all affective reactions that are evoked by disadvantages which are characteristically encountered by the human species are components of emergency reactions, and that they involve changes of visceral innervation which ought, normally, to increase the organism's chance of quickly overcoming or escaping the inciting disadvantages. Persistent failure of adjustive activities leads to persistence of the affective reaction, and this, in turn, means pathologically persistent autonomic interference with vegetative functions.

7. *A Compound Reaction which Includes Alternating Variation of Adjustive Effort and Persistent Repetition of a Nonadjustive Effort:* This alternation of two separately identifiable types of reaction stands out so clearly in the behavior of the baffled mammalian that it deserves classification as a unit of behavioristic analysis. When a mammalian finds itself imprisoned—as under the conditions of my experiments—it may return again and again to one apparently possible place of exit and attack it persistently, then vary its adjustive efforts by attacking other apparent places of exit, then return to the first place and attack it repeatedly, again vary its activities in a hit-or-miss way, etc., alternating the two types of reaction in a very striking manner. Thus an animal would attack exit No. 3 and return to it many times without trying any other exit. It would then abandon this exit and try exits 1 and 4. If these failed to afford it escape from the apparatus it would return to its persistently repeated attacks on No. 3, but finally abandon this method and vary its choice of exit places to try for escape. Members of all species exhibited this type of reaction, although there were individual subjects in whose behavior it was not apparent.

8. *Clinical Manifestations of the Tendency to Alternate Variability of Adjustive Effort with Persistent Repetition of a Nonadjustive*

Reaction: This tendency is apparent in practically all nervous patients who exhibit persistent, nonadjustive affective reactions to baffling disadvantages. An educated, plausible woman who takes pride in her ability to attack her personal problems in a systematic manner will often mislead her physician by her account of the planful, dispassionate quest she is making for satisfactory adjustments to her difficulties. *It will usually be found that such a patient is thus wisely varying her adjustive efforts only part of the time, and that there is an almost rhythmical recrudescence of the nonadjustive affective response* that she, herself, recognizes but is too vain to acknowledge as a somehow futile and pathogenic activity of her reactive equipment. The neurotic woman who is firmly resolved to do something less futile about her husband's incurable lack of ambition than to respond to it as to a grievance-inciting disadvantage persistently falls away from this good resolution. The tendency to do so is easily detected, once the physician recognizes its identity as a unit of behavioristic analysis.

9. *The Tendency to Stereotype a Systematic Mode of Searching for an Escape from a Disadvantage Without Eliminating Obviously Nonadjustive Activities:* With the exception of the gophers, individuals of each of the species studied displayed a tendency to start at the extreme right or extreme left of the semicircular row of exit places and try them in order until the right place was found. Thus throughout a large number of trials some of the subjects would invariably attack exit No. 1 first, then exit No. 2, etc., going down the line until the right one was found. I had expected that all of the human subjects would adopt this procedure, but in my first series of experiments, which included 11 human subjects, it was of frequent occurrence in only 2 of the 11: a high-grade imbecile and a normal child of twenty-six months. In the second series the 20 human subjects were inmates of an orphanage, and included several who, either by reason of youth or inherent mental deficiency, presented a general inferiority of mental capacity; these subjects also disclosed a tendency toward the adoption of the stereotyped method. The same tendency was strikingly apparent in the behavior of individual monkeys, and to some extent of individual rodents. The stereotyped method would abruptly appear in the behavior of an individual subject, persist for a number of trials, and as abruptly disappear. *It would seem that the mammalian,*

both primate and infraprimate, has a repertoire of more or less distinct reactive tendencies for meeting baffling situations, and that where a specifically adaptive adjustment is not learned, now one, now another of these tendencies comes to expression.

The tendency under discussion has no very great clinical importance of which I am aware. It is encountered occasionally in a futile, rather stupid type of nervous patient who is found to have stereotyped a habit of invariably running through the same gamut of nonadjustive reactions on the way to one which satisfies him temporarily. I have in mind a man who keeps himself neurasthenic by endlessly repeating stereotyped cycles of reactions to his wife's extravagance. Each cycle includes, successively, several days of aggrieved sulking, then several days of half-hearted scolding and, finally, a storm of angry threats which evoke temporarily satisfying spousal promises of reform.

10. *Infrarational Trial-and-Error Reaction to Baffling Disadvantage.* In this type of reaction the subject does not try any impossible place of exit more than once during a given trial, but he does not take into account the fact that it is useless to try the right exit place of the immediately preceding trial. It will be remembered that during each trial all four exit places are apparently possible avenues of escape, but that only three of the four are *inferentially* possible from the standpoint of a subject who discovers that a given exit place is never permitted to afford escape during two successive trials.

This type of reaction is a highly characteristic mode of mammalian behavior. My method elicited such reactions in the young children and the animals, but the experimental situation was so simple that the older human subjects quickly discovered that there were never more than three inferentially possible places of escape from the apparatus during a given trial. Yerkes' method, which enables the experimenter to add many complexities to the experimental situation, is better calculated to demonstrate the well-known fact that many, if not even the majority, of the average person's adjustments to new and baffling situations reflect the infrarational, "trial-and-error" tendency rather than a tendency to make rational inferences from experience. We regard ourselves as preponderatingly rational in our behavior when, as a matter of fact, we are usually only intelligent, i.e., we usually just try, try again as do

the animals, meet success accidentally and fix as a reactive habit the movements which accidentally lead to success.

While this chapter is being written I am in the confidence of three men who have been trying, for several months, to muddle their way through to the solution of a problem which is of common concern to them. They have seized upon and abandoned every proposition that has had the faintest appearance of a solution, and one of them, at least, has been losing much-needed sleep and otherwise reacting badly to the baffling problem. In a conference which I had with two of the three worriers today it was clearly apparent that they had been largely dominated by the hit-or-miss, trial-and-error reactive tendency. The suggestion that they abandon all adjustive efforts excepting a deliberate quest of the principles which should determine their action in the premises proved to be of value. Their problem is, fundamentally, an insoluble one, and they will react endlessly and nonadjustively to it unless they adopt a strictly rational reactive attitude toward it. They have now decided to permit a rationally elaborated principle to determine their attitude, and to be content with such action as they may take on this basis.

The nervous patient usually attacks a baffling problem by the infrarational trial-and-error method when he first encounters it, and then reacts secondarily to the baffling of effort which this involves by falling back upon the still less adequate method of persistently repeating a wholly nonadjustive, essentially affective response to the situation. A little unemotional hard thinking at the outset would often prevent serious nervous reactions to difficult personal problems.

11. *Reactions Determined by Rational Elaboration of Experience:* In the experiments this simply involved the subject's recognition of the principle that no apparent place of exit would be permitted to afford escape during two successive trials. My experiment did not conclusively demonstrate the capacity for such reactions in any of the infrahuman mammalians, but Yerkes'[69] subsequent work with an orang-outang in my laboratory clearly showed that this animal was able to "reason about" problems with which he was confronted.

Capacity for the determination of overt response by rational elaboration of experience is the most plastic and most highly adaptive feature of the human reactive equipment. We have reason to

believe that this type of adjustive function involves the distribution of neural energy in complex patterns which are largely composed of cortical intercalary neurons, and which do not importantly include the autonomic neurons. *In other words, purely rational reactions to experience do not involve emergency interferences with vegetative functions.*

A realizing sense of the biologic value of the capacity for rational reactions is, perhaps, the most important therapeutic resource that any psychopathologist can possess. This type of reaction is not, as a rule, the first line of defense against emergencies which seriously menace the welfare of the individual and which, to be met adequately, must be quickly met. The admonition, "Think first, then act," must often be reversed to express what occurs in Nature. In most emergencies it is biologically appropriate to act (this may mean merely to speak) first, then to think. It is likely that if a man habitually deferred overt response until synapses could be formed among the cortical neurons for the distribution of neural energy in patterns for ratiocination he would not long survive. Fires and floods; mad dogs, mad bulls and mad motorists; falling objects and the levelled gun of the footpad; the unexpected aggressions of those who would seriously impair one's advantage in a vital way by word or deed—all such emergencies usually call for the more expeditious ready-made reactions to which we commonly refer as habitual or instinctive, according to the history of their origin.

When a Disadvantage is of a Kind to Act Over Longer Periods of Time, and is too Subtle to be Adequately Met by Affectively Reinforced Instinctive Modes of Response, There Must be Developed a Habit of Reacting Rationally Thereto if the Individual is to Escape Nervousness: It cannot be too often repeated that any situation which has, physiologically, the reactive value of an emergency sets in operation neural mechanisms which in turn interfere with normal vegetative functioning somewhat as the fireman interferes with the normal activities of the housewife when he is called upon to save her home from the flames. If, then, long-drawn-out and relatively subtle disadvantages set in operation, even on a low scale of intensity, any of the emergency reactive-tendencies rather than the more slowly acting but more adequately plastic rational one, the individual's vegetative functions are apt to be chronically inter-

fered with by emergency autonomic activities. It is not only inappropriate but often pathogenic to have the entire organism chronically prepared for flight or fight in response to a baffling disadvantage which cannot be adequately met by other than rationally determined adjustive processes.

12. *Conclusions Drawn from Correlation of Experimental with Clinical Observations of Baffled Reactions:* The conventions and ideals which so largely determine the interactive relationships of individual to individual, individual to group, and group to group inevitably involve the compounding of complex stimuli-entities which have, for the individual, the reactive value of disadvantages which would be critical in primitive life, but which may not appropriately be dealt with as critical in civilized life. The neural adjustive mechanisms, or properties, or reactive tendencies with which the organism is primitively equipped for the various disadvantages which are typically encountered by the species are apt to be set in function by these subtle stimuli-entities which civilization compounds for us. But situations which are thus compounded for us cannot often be adequately met by any of the four above-described infrarational types of reaction which appear, on experimental analysis, to belong to the reactive equipment of mammalians in general. Terminative adjustments to such situations are possible only when rational reactive tendencies are set in function, largely because the individual is often able to escape their disadvantageous qualities only by deliberately effecting a remedial change in his reactive relationship to them. This was Epictetus' one great practical discovery, and its value remains unchanged.

We must not forget that many disadvantages are encountered in civilized life which cannot be removed without undue sacrifice of major values of one sort or another. A concrete example taken from my case records illustrates this point: A patient whose incorrigibly adulterous husband was directly to blame for her quite serious nervous symptoms could not take legal action against him without thereby ruining his business. To ruin his business was to deprive her children of educational and other advantages which meant more to her than her own health. Her husband's conduct persistently evoked in her jealousy and grievance reactions and consequent, equally persistent, disturbances of cardiovascular and gastrointestinal functions. In the circumstances that obtained, no

permissible overt behavior would withdraw her from the pathogenic situation. It seemed to me that the only thing to do was to effect, for the patient, a change in the reactive value of the husband's infidelity. The patient was convinced that only the functioning of the highest of all the list of possible human reactive tendencies could effect this change. Her recovery did not include freedom from an underlying sense of deprivation, but it freed her from the somatic consequences of persistent, nonadjustive affective reactions of a primitive and wholly inadequate type.

CHAPTER VIII

HABIT-FORMATION

1. *General Considerations:* Among the properties common to all mammalians is the capacity for acquiring fixed tendencies to respond to particular stimuli by exhibiting stereotyped adjustive movements. This capacity extends to animals far down in the phyletic scale, as was shown by Yerkes'[69] experimental demonstration of habit-formation in the common earthworm (*alolobophora fetida*); but in what follows reference will be made to only the more broadly comparable facts of mammalian behavior. We have already a respectable body of facts and interpretations for explanations of the more intimate details of habit-formation, for many of which we are especially indebted to Sherrington'[70] and Watson,[71] to whom most of us, indeed, are largely indebted for our neurologic and behavioristic orientations as to the mechanisms of habit-formation.

2. *A Neurologic Explanation of Habit-Formation:* The synaptic connections which determine that the receptors for a particular stimulus shall be in functional continuity with the effectors for a particular response thereto are more easily or less easily established when the organism encounters that stimulus a second time, still more or less so on a third encounter, etc., according as each successive response to the stimulus is favorable or unfavorable to the organism as a whole. Thus the first time a chick is stimulated by a small object which lies on the ground in front of it, synaptic connections are made in its nervous system for a positive feeding-reaction to the object. The chick picks at the bit in front of it and takes it into its mouth. If the object is a grain of wheat, successively encountered grains of wheat are picked up and swallowed with increasing speed, accuracy and lack of hesitation until a highly efficient habit of picking up wheat is established; with repetition the synaptic connections between the appropriate receptors and effectors are more readily established. This habit is, of course, of value to birds whose habits of flocking together involve a good deal of rivalry in the acquisition of food.

If the object that elicits the chick's initial feeding-reaction is not a grain of wheat but a bit of its own or a fellow's ordure, the synaptic connections for positive feeding-reactions to such bits are less easily established with each subsequent encounter with them. Furthermore, as the chick's experiences increase, it acquires a habit of reacting negatively (avoidance reactions) to chicken ordure; a new set of synaptic connections are established, and function with increasing facility and accuracy.

3. *Behavioristic Principles.* Behavioristic formulations of principles which shall explain habit-formation have been the object of ever more accurate and trustworthy methods of research in comparative psychology since Thorndike's[72] pioneer work with the puzzle box at the end of the last century. Behaviorists have abandoned to the poet-naturalist and the speculative psychoanalyst that field of inquiry which is concerned with the collection of narratives and nonexperimental observations upon which to base psychomorphic interpretations of mammalian behavior. The literature that deals with experimental studies of habit-formation and habit-disintegration contains a great deal that is relevant to an understanding of abnormal human behavior, but the limited scope of the present volume will permit only a discussion of a few principles of outstanding importance:

4. *Abandonment of Nonadjustive Movements:* When an organism is repeatedly subjected to a particular kind of stimulation its successive responses thereto are apt to disclose a more or less gradual abandonment of nonadaptive movements and a fixation of specifically adaptive ones. Thus a rodent which is repeatedly required to find its way out of a maze in order to gain access to food at first succeeds only after having wandered into many blind alleys. But in the course of a sufficient number of trials it gradually acquires a habit of following only such maze paths as lead steadily to the exit. The rapidity with which nonadaptive movements are dropped is largely dependent on two factors, viz., (a) *the organism's sensorimotor equipment,* and (b) *which of the five tendencies described in the preceding chapter is most frequently set in operation by the incident stimuli.* The rodent, which wholly lacks the rational-elaboration tendency of my description, abandons nonadjustive movements during habit-formation more slowly than does the normal human subject. But even in the human subject there are condi-

tions which favor the operation of primitive infrarational tendencies and thereby retard or wholly prevent the abandonment of nonadaptive and often pathogenically maladjustive movements.

Watson's[73] discussion of my experimental work convinces me that I have not hitherto presented its theoretical and practical objectives with sufficient clearness, although Paton[74] has evidently been able to interpret some of my admittedly obscure statements in a discussion which calls attention to the lack of standards for comparisons of the various mechanisms involved in habit-formation. The following examples may be helpful to the medical reader who is unfamiliar with the literature of experimental behaviorism:

5. *The Two Housewives:* A housewife of my acquaintance undertook to solve the servant problem by doing without a servant altogether. The tiny kitchen of the cottage to which the family moved in order to make this possible was at first a rather baffling affair because the various utensils were always in the way. She managed somehow to clear a space for the bread board when she wished to cut bread, or for the milk pan when she wished to skim the cream, etc.; but her reactions to the various things-in-the-way involved a good deal of wasted effort, and unnecessarily prolonged the time required for preparing food, washing dishes, tidying the kitchen and similar duties. She quickly adopted a system for the disposal of utensils not in immediate use which clearly reflected the operation of her rational-elaboration tendency, so that nonadaptive movements in the kitchen were largely abandoned within a few days, and specifically adaptive kitchen habits were stereotyped. *Nothing in the total situation favored the persistent manifestation of more primitive, less plastically adaptive tendencies in this case.*

Another housewife, whose name, I regret to say, might almost be legion in the experience of any psychopathologist, had a husband whose behavior did not suggest that the male of our species is instinctively monogamous. He would flirt with any prepossessing young woman who seemed to be at all responsive to such attentions, and it was evident that at least one siren made it possible for him to commit adultery with a frequency which was unflattering to his lawful mate. Now the tendency that enabled the servantless housewife to acquire time-saving and energy-saving habit-adjustments to the incorrigibly tiny kitchen would have enabled the slighted housewife to acquire adequate habit-adjustments to the incorrigibly

adulterous husband, even though they might not have restored to her the satisfactions that she once derived from the belief that she was the only woman who elicited his sexual-romantic cravings and strivings. Had this tendency been effective in determining her habitual modes of response to the husband's behavior she would have pursued one of the following courses:

(A) She could try to reform him by deliberately devising and executing reformative measures. This course, to be effective, requires abandonment of punitive measures and inhibition of instinctive responses to spousal infidelity. The reformation of an adulterous male who can neither be castrated nor supplied with corrective religious motives ought to follow certain principles which can be grasped by any intelligent woman. These are:

(a) The slighted wife must render her body and her personality as attractive as possible, and thus seek fully to satisfy those cravings which lead the male to seek intimate contacts with women.

(b) She must remind him as dispassionately as possible that no woman may justly be expected to share her husband's caresses and other essentially sexual attentions with any other woman; and that no woman who finds that she is sharing her husband with another woman is able to escape feelings of anger, humiliation, disgust and very painful jealousy.

(c) She must assure him, as dispassionately as possible, that on the one hand she will endeavor to permit neither his lies nor her desire to believe him innocent to fool her; and that on the other hand she will not permit her jealousy to render her unfairly suspicious of his goings and comings.

(d) She must convince him that she will meet her own obligation to be continuously tolerant, decent, kindly, companionable and self-controlled in spite of his misconduct as long as she finds it possible to live with him under a common roof on any basis whatsoever; and that if in the end she finds that she must eliminate him from her life such action will be solely in defense of her own rights and advantages, and that it will not be in any sense a punitive measure.

If her efforts to reform him fail she may then adopt one of three other possible measures. Each of these, to conform to the rational-elaboration type of reaction, will require her to charge off his incorrigibility to profit and loss, and to strive for the development of habits of reaction to it similar to those which she would finally

acquire as habit-adjustments to the death of a child or of the wayward spouse himself. She must cease to react to his adulterous habits as to a disadvantage which can be removed, and, above all things else, cease to react to the situation as to an emergency:

(B) She may continue to accept him as a business associate and—if there be children—the father of her children, and thus live under a common roof with him, with all that this implies in the way of common economic interests, social obligations, etc.; but she must cease to be his mate, and must remind him that she reserves for herself a right to indulge in discreet intrigues with other men. He is now no longer her husband, and neither one must demand of the other anything that business associates would not demand of one another. Their relationship to one another will then be similar to that which obtains between a man and a woman who, having no sexual interest whatsoever in one another, operate a shop as equal partners. Under such conditions one partner would demand of another that his (or her) sexual intrigues effect no disadvantage to their common enterprise.

The woman who chooses to live under the same roof with an incorrigibly adulterous husband cannot logically pursue any other course unless she can cheerfully accept the status of one of the mates of a polygamous male. In short, the course of action outlined in this paragraph requires the wife to form rational reactive habits which will so alter her reactive relationship to him that she will habitually respond to him, not as to a mate, but as to a business associate.

(C) She may effect a legal separation if he proves to be an impossibly unsatisfactory business associate. This step may, in some cases, be preferred to divorce because of deterring religious or other considerations.

(D) Divorce, the most conclusively adjustive measure open to such a woman, is usually the best way to meet the situation unless there are children whose advantage would be unduly impaired by such action.

As a matter of fact, this housewife's habitual reactions to her husband's infidelity were but little influenced by rational elaboration of the experiences contained in the situation. They reflected, instead, the operation of the four less adaptive, more primitive tendencies which were apparent in the behavior of inframammalian

subjects when they were repeatedly subjected to baffling disadvantages in my experiments. Sometimes she wept angrily, sometimes pleadingly; sometimes she threatened to kill him, or his mistress or herself; on several occasions she consulted a lawyer and directed him to institute divorce proceedings, only to return home and frantically countermand such action by telephone; there were nights when she locked her door against the adulterer, and nights when she sought to be more seductive than she imagined the sirens to be; she told him more than once that in the future they would be formally polite to one another at home and deceptively friendly when they were under the observation of other persons, but she never held to this plan; one night at a dance she amused her friends by flirting clumsily with another man in an obvious effort to excite her husband's jealousy, etc. For the most part her reaction to the husband's infidelity was of the stupidly persistent, nonadjustive affective type. She never acquired adaptive habits in relation to her difficulty, and finally became a seriously impaired nervous invalid.

6. *Habit-Adjustments to Irremovable Disadvantages:* Experimental behaviorism and scientific psychopathology have largely ignored the problems contained in the fact that not all irremovable disadvantages have the reactive value of irremovable disadvantages to civilized man; and that when this is the case none of the reactive tendencies that are ordinarily responsible for habit-formation will lead to the fixation of adequate habit-adjustments to the quality of irremovability as such. The experimental method described in the preceding chapter presented to the subject, throughout his entire series of 100 trials, a very simple type of irremovable disadvantages, viz., the impossibility of locating a place of exit which would invariably afford escape from an imprisoning enclosure. The infrahuman subjects and, particularly, the rodents did not, as a rule, react to this disadvantage as to an irremovable one, and displayed a marked tendency persistently to repeat wholly nonadjustive movements. A few of the animals temporarily adopted a method of trying each exit place once in regular order from left to right or from right to left, but, with the exception of a monkey subject, none fixed this method as a habit. Only the subjects (the older children and the human adults) who displayed a capacity for rational elaboration developed habits of reacting to the situation

which had specific reference to the irremovability of the disadvantage: they simply omitted the one inferentially impossible, trial-to-trial varying exit-place, and confined their attention to the three trial-to-trial varying inferentially possible exit-places.

Both field and clinical observations show that mammalians tend to form adequate habits after a sufficiently prolonged experience with the irremovable disadvantage, *provided it have the reactive value of irremovability for them.* I found that among monkeys the loss of an arm or a leg, or even blindness led to the formation of habits which were adequate to such disabilities. Even a very stupid man who loses a leg gradually abandons his awkward flounderings and acquires various habits which are specifically appropriate to his one-leggedness, without, perhaps, ever making a deliberately rational effort to do so. But, if instead of irretrievably losing a leg, a man sustains an irremediable injury to a knee-joint which he does not recognize as irremediable, he is apt to react to this somatic disability as to a baffling disadvantage which takes him the rounds of surgeons', osteopaths' and chiropractors' offices, and ultimately results in the development of a crippling neurasthenic syndrome. Twenty-three per cent of the patients of the survey owed their nervousness wholly or in part to persistent, nonadjustive affective reactions to baffling somatic disabilities.

The problems of the two housewives of the preceding paragraph (the one with an incorrigibly tiny kitchen and the other with an incorrigibly adulterous husband) called for the formation of habits which could not possibly be developed save on a basis of rational elaboration of their respective experiences with these problems. The situation which confronted the first housewife was not of a kind to elicit infrarational reactions, but the second housewife encountered in her husband's adulterous conduct a type of disadvantage which has, biologically, the value of an emergency. Under primitive conditions, to be deprived of your mate is to be deprived of your food, shelter and defense, not only for yourself, but for your children. It is fitting that you should combat, at once, and with all your resources, the efforts of another female to steal from you the provider of these necessities. You need, from a behavioristic standpoint, the fullest possible affective reinforcement of such efforts; and from a physiologic standpoint your autonomic nervous mechanisms must marshal all your bodily forces to improve your

chances of overcoming the mate-stealing hussy. In civilized life the situation may not actually constitute an emergency of this sort, but owing to certain innate features of reactive equipment the civilized female will surely react to it as to an emergency unless she is trained to act otherwise. It is here that the technical skill of the psychopathologist is required.

Experimental behaviorism has some interesting opportunities for research in directions which may be expected to lead us to a better understanding of the conditions that interfere with the formation of adequate habits in response to the irremovability of disadvantages which do not definitely possess this reactive value for the individual.

7. *Conditioned Reactions:* When two stimuli, one of which has no appreciable reactive value and the other a strongly positive reactive value, affect a mammalian at the same time or in close temporal order the organism tends to respond thereafter to the negligible stimulus as it originally responded to the positive one only. In 1909 Yerkes and Morgulis[75] called the attention of American behaviorists to Pawlow's experimental demonstration of this principle. Pawlow[76] showed that the dog's salivary reflex tends to be activated by an originally indifferent stimulus, such as the flashing of a light or the ringing of a bell, after the animal has been repeatedly exposed to the joint action of the indifferent stimulus and the exhibition of a food powder which normally excites this reflex. His method consisted in establishing a parotid fistula which enabled him to measure the effects of such stimulations upon parotid secretions. In 1914 Morgulis[77] published further reviews of work in Pawlow's laboratory, where Friedman,[78] Tchecotareva,[79] Theocritova,[80] Vassiljev,[81] Folbort,[82] Rojanski,[83] Savitch[84] and Jerofeeva[85] made various experimental analyses which disclose the importance of conditioned-reflex mechanisms for the establishment of habit inhibitions, sleep habits and various other reactive habits which are of less direct interest to psychopathology. Morgulis[86] describes one of Pawlow's experiments which is suggestive for a physiologic explanation of masochistic behavior, and exemplifies a principle which serves to bring hysteria out of the haze of psychomorphic interpretations into the clear field of tangible physiologic processes:

"The skin of a dog is irritated by an electric current of such

strength to cause a painful sensation (or destructive action, in accordance with the objective terminology). Each time this stimulus is applied the mechanism of self-defense is set into vigorous reaction; the animal attempts to break loose from the stand, to snatch the instrument, and so on, in other words, a strong defensive reflex results. If food is given to the dog at the same time (this must frequently be done through a stomach tube) it sooner or later comes about that the defensive reaction is gradually subdued and at last vanishes altogether, while the electrical irritation becomes a conditioned stimulus of the salivary gland."

Bechterew's studies of conditioned motor reflexes were not easily available when they first attracted the attention of American behaviorists, but in 1916 Watson[87] reported his own and Lashley's preliminary studies of this extension of the work initiated by Pawlow. The following quotation from Watson gives the grounds for his belief that not only secretory and motor reflexes but emotional reflexes as well may become conditioned to respond to originally indifferent stimuli:

"Every motor reaction calls for a simultaneous response in the glandular system (corresponding in part at least to the *affective values* of the psychologists and psychopathologists). Now the chief symptom in many cases of mental disease is the disturbance of 'affective values' (withdrawal of libido, etc.). It is to take account of this puzzling transfer that has led the Freudian school to speak as though the 'affective process' could be disembodied from any particular response and hang suspended as it were in mid-air (the 'subconscious' is here introduced by Freud). From time to time, to be sure, it attaches itself to certain responses, but these responses may bear no relation to the original stimulus which called it forth.

"The modern notion of emotional reactions calls first for the presence of an emotionally exciting stimulus, which will, through hereditary mechanisms, excite neural arcs leading through the central and the autonomic systems, finally arouse activity in the glands —especially the ductless glands. The latter then set free certain substances, e.g., adrenin, among other things which, on getting into the blood, continue the emotional activity just as though the original stimulus were present. As I view the matter we have here just the situation for arousing *conditioned emotional reflexes.* Any stim-

ulus (nonemotional) which immediately (or shortly) follows an emotionally exciting stimulus produces its motor reaction before the emotional effects of the original stimulus have died down. A transfer (conditioned reflex) takes place (after many such occurrences) so that in the end the second stimulus produces in its train now not only its proper group of motor integrations, but an emotional set which *belonged originally to another stimulus.*''

My survey and, more extensively, my clinical investigations in general, have convinced me that many of the *morbid adjustive habits* of nervous patients are determined by the mechanisms which Watson has in mind when he seeks to explain the phenomena to which he refers as conditioned emotional reflexes. He disclaims, in effect, any pretension to accuracy of concepts when he is on the grounds of visceral neurology and endocrinology, but the essential outlines of his argument, as quoted above, are consistent with such facts as are presently available. I have endeavored to show in that part of this book which is devoted to a discussion of concrete cases (Chapter II), that the principle of the conditioned reaction* is one of various behavioristic principles which can be more profitably and more legitimately adduced in explanation of adjustive dysfunctions than can psychoanalytic principles, which assume unconscious psychical determination of such dysfunctions.

Kempf's[88] suggestive textbook of psychopathology gives recognition to the value of the principle of the conditioned reaction in medicine, and contains an ingenious theory of vegetative neurology, but he holds fast to psychomorphic interpretations which are of the very kind that long ago so dissatisfied comparative psychologists that they abandoned the general standpoint from which Freud and his followers proceed.

8. *The Factors of Recency and Frequency in Habit-Formation:* Everything else being equal, a mammalian tends to respond to a recurring stimulus by repeating either its most *recently successful* reaction thereto or the reaction which has hitherto been most *frequently* elicited by the stimulus. The relative value of the recency and the frequency of a particular response in determining the formation of a reactive habit has not been satisfactorily established,

*Since in medicine the term, "reflex" connotes a more simple physiologic integration than does the term, "reaction," and since most of the behavioristic integrations that are dealt with in this book are of a more or less complex nature, I have substituted the term, "conditioned reaction" for the more familiar "conditioned reflex."

and I hesitate to make didactic use of my own findings since they have led me to conclusions which differ somewhat from Watson's[89] interpretations of his much more extensive and technically refined studies of habit-formation. It may be safely said, however, that if a mammalian has manifested a given response to a stimulus with preponderating frequency, and that if this response is less advantageous to the organism than its most recently manifested one, we have no experimentally established principles upon which we may surely rely for prediction as to whether the next incidence of the stimulus will evoke the most recently or the most frequently manifested response. The situation can be expressed as follows:

A mammalian has reacted to a given stimulus 30 times, and has exhibited six different types of reaction to it. Of these reactions, *A* and *B* have led to adjustment, and *c, d, e,* and *f* have been wholly nonadjustive. Reaction *B* results in an unnecessarily retarded withdrawal from the disadvantage and *A* leads to a speedy withdrawal from it. A record of the animal's 30 adjustments reads thus: *c,f,B,d,c,f,B,B,e,c,B,f,B,B,B,c,B,B,B,B,B,B,B,B,f,B,B,B,B,B,A.* The animal has exhibited next-to-most-adequate reaction *B* 20 times and most-adequate reaction *A* once. Will he exhibit the most frequently manifested by *B* or the most recently manifested *A* on his 31st encounter with the stimulus? My studies of mammalian behavior have led me to believe that if *A* is a very much more advantageous type of adjustment than *B* its combined qualities of recency and greater successfulness will determine the exhibition of an *A* reaction the 31st time. I believe that under appropriate experimental conditions this would be found to hold good for all mammalians from the phyletic level of rodents to and including the human species.

It is a matter of considerable practical importance to determine the relative value of mere frequency of response as such and the combined qualities of recency and successfulness as factors in determining habit-formation. *One's ability to effect a cure in a given case of nervousness is often contained in the possibility of enabling the patient to develop habits of rational responsiveness to situations which have previously elicited infrarational, more primitive and—by reason of their affective components—pathogenic reactions.* The value for habit-formation of the recency-successful factor is clearly apparent in clinical work, as for example:

A woman who habitually manifested non-adjustive grievance reactions to her husband's failure to cooperate with her in her plans to improve her social position presented a rather serious neurasthenic syndrome, including a stubborn colitis and dependence on hypnotics for sleep. It was obviously desirable to have her develop rational reactive habits in relation to the husband's delinquencies, and thus to replace pathogenic with nonpathogenic reactive habits. Her own surface-reasonings and her general make-up were of a kind to render her inaccessible to a direct appeal for cooperation with the psychopathologist. She was too vain to admit that any improvement could be effected in her reactive relationship to her husband's grievance-inciting behavior. Indirection, which is usually a bad policy to follow in psychotherapeutics, had to be resorted to. A deliberate effort was made to convince the patient that her husband's lack of sympathy with her social ambitions was not so much his fault as a reflection of the fact that she was spiritually isolated in her family by her own vastly superior intellectual, esthetic and spiritual qualities. Shortly after she had received this gratifying estimate of her personal qualities she had a dinner party in her home, and her guests were persons of importance in her world. Her husband appeared in a dinner jacket and a white tie, and was rather coarsely matter-of-fact in his dealings with the guests. Ordinarily, this would have evoked in the patient very marked grievance reactions which would have persisted throughout the evening and far into the night. She would not have quarreled with her husband, but would have masked under a martyr-like demeanor a healthy impulse to curse him. The next day she would have had a serious exacerbation of her colitis, a painful sense of fatigue and a still more painful sense of inner tension. These symptoms would have been attributed to the excitement and fatigue induced by the party and preparations for it, to indiscretions of diet, etc. None of these symptoms occurred this time because, I believe, her husband's behavior at the dinner party did not evoke the usual persistent grievance reactions. According to her account of the matter the next day, the sight of his white tie and dinner jacket and the other evidences of his boorish disregard of the usual amenities of the polite world gave her an exhilarating sense of her innate superiority to him, a sense of the futility of trying to make a silk purse out of the sow's-ear-husband *and an acceptance of the*

irremediability of the situation. There was no grievance reaction that evening, and she felt almost well for the first time in years. Her dinner did not make her uncomfortable, she slept well without a hypnotic and she did not experience the usual morning lassitude on arising. Thereafter the new type of reaction to the husband-situation prevailed, and she fully recovered her health. She took the entire credit for having discovered a mode of adjustment to her problem which led to none of the former discomforts, which she now believed to have been due to the abandoned grievance reactions. This was one case, I believe, in which the psychopathologist was justified in resorting to the methods of the animal trainer in his efforts to break up a bad habit and to develop an hygienic one.

CHAPTER IX

THE RELATION OF INHIBITION OF RESPONSIVENESS TO INDIRECT RESPONSIVENESS

1. *The Principle of Selectivity of Adjustive Function:* From the standpoint of behavioristic analysis, selectivity of adjustive function is a property without which the mammalian would not long survive. The possession of this property by unicellular organisms, as shown by their positive and negative responses to stimulations to which they must make adequate adjustments or perish, suggests that all animals possess it. Among mammalians even the cleanest-cut instinctive modes of adjustments are appreciably modifiable. A habit, however firmly fixed, represents the selection and fixation of a particular one of several different kinds of reaction which the organism initially tends to exhibit in response to a particular kind of stimulus. From a neurologic standpoint it may be said that no receptor or group of receptors is an unalterable connective relationship with a particular group of effectors for adjustment of the organism as a whole to its environment.

Selectivity of adjustive function implies possession of some sort of capacity for inhibiting dysteleologic adjustive impulses; and however we may explain inhibition as a physiologic process, we cannot doubt that this process extends, in cases, to a reduction or even a total elimination of receptivity to various kinds of stimuli. An animal may be so trained (e.g., the dog in Pawlow's laboratory) that, in spite of positive innate or acquired tendencies to react in a particular way to a particular stimulus, it will finally cease to make an appreciable direct response to that stimulus. Any person who has ever trained a hunting dog to follow only the fox scent will accept the accuracy of this generalization. The young foxhound will first respond to a rabbit scent with free trailing movements, then, as his training progresses, with abortive trailing movements and, finally, if he qualifies as a good hunter, he will make no observable response to rabbit scents. Observation of his behavior while he is being trained suggests that at first inhibitive interference

with the reaction-arc connections for rabbit-trailing occurs near the effector end of the arc, but that as his training progresses this interference moves backward, as it were, toward the receptor end. When a dog is so well trained that he responds overtly to the fox scent alone while hunting in a field or thicket where rabbits abound it seems likely that the first synapse beyond the receptor end of the arc for rabbit-trailing is not formed.

A final and fully satisfactory explanation of the phenomena of selectivity in the formation of interneural connections will necessarily carry with it, it seems to me, an explanation of the phenomena of inhibition. Dercum's[90] theory of 1896, to which allusion has been made in an earlier chapter, was to the effect that synaptically established continuity between two conducting neurons is effected by ameboid movements of the dendrites of the neuron which passes the neural impulse on toward the effector end of the arc. He arrived at this theory independently of the other neurologists to whom I have referred as proponents of essentially the same theory. In 1922[91] he was able to quote Kappers in support of the main contentions of his theory. Sherrington[92] is not in agreement with Kappers on this point, but Dercum, taking this into account, sums up his own argument as follows:

"In any event, it is quite probable that the physical principles involved would not differ in essence from those that determine the approach of the pseudopod of the amoeba to a nitrogenous or other food particle."

Patten's[93] recent review of Kappers' studies of neurobiotaxis discloses the difficulty of the problem involved in reducing to explicit physicochemical terms the physiologist's explanation of interneuronal connections; but for the present both the behaviorist and the clinician may, in my opinion, properly use Dercum's above-quoted generalization as a convenient working hypothesis. It is at least safe to assume that it is one of the intrinsic properties of intercalary and, possibly, efferent neurons to respond selectively to incoming nerve impulses by establishing or failing to establish connections for the further conduction of such impulses. In other words a neuron may take up or not take up an approaching nerve impulse. We know that selectivity of responsiveness to light, heat, chemical, contact and other stimulations is inherent in unicellular organisms. Dercum[94] states that in 1895 it occurred to him (in terms, of course,

of the prevailing neurologic concepts of that period) that "possibly an hysterical paralysis—e.g., of an arm—could be accounted for by a retraction of the processes of the neurons in the 'arm center' of the motor area of the cortex, so that these neurons would no longer be in physiologic relation with the rest of the cortex."

2. *A General Inhibitive Tendency in Mammalians—Its Experimental Isolation in the Behavior of Monkeys:* The mammalian tends to acquire apparent unresponsiveness to any stimulus, direct responsiveness to which is inimical to his welfare. He may respond to such a stimulus indirectly in some cases, and in other cases one can find no evidence of any kind of responsiveness to the stimulus whatsoever. My observations lead me to suspect that this general tendency may result in either approximately total unresponsiveness or indirect responsiveness, according to circumstances which will be discussed further on. The functioning of this tendency is well exemplified by the case of the foxhound which, after having been made to suffer disadvantage at the hands of its master a sufficient number of times for responding to the rabbit scent, acquires an apparently total unresponsiveness to this kind of stimulation. Among the unpublished findings of my experimental work with monkeys there is one series which discloses the tendency of these animals to inhibit direct responsiveness to stimuli when such responsiveness is inimical to their welfare:

If two mature male monkeys are confined in adjoining cages which separate them by only a fine-mesh wire netting, *and if they have not had previous contact with one another,* they will frequently respond to the situation by engaging in combats through the netting. Monkey *A*, e.g., will be restlessly pacing the bottom of his cage as if seeking an object or "interest" upon which to focus his activities. He will play with any loose objects which may be at hand, cling to the netting and shake it, "hunt fleas," yawn, peer inquisitively through the meshes of the confining netting, etc. Finally, as if in exclusive response to intrinsic stimuli which lead him to seek combat, he bristles, ascends to the high shelf near the top of his cage and, if he finds monkey *B* on his part of the shelf on the other side of the netting, approaches his neighbor threateningly, and with teeth, voice and other bodily movements issues his challenge. The two monkeys then fight as best they can through the netting which separates them. This usually takes the form of much

savage biting at one another's protruding fingers, toes and lips as they flatten themselves against the netting. A favorite trick is to retreat from the partition a few feet and then, if the enemy remains flattened against it, to dash against it in a manner which seems to be effective of greater discomfort to the monkey hurled against than to the one who uses his own body as a missile. Such behavior typically occurs several times daily so long as the two males are thus confined in separate cages.

The next phase of the experiment consisted in turning the two monkeys loose in the woods which surrounded my laboratory. They may now be expected to find one another and to engage in a series of combats which may extend over a period of several days if they are fairly well matched, but sooner or later, as a rule, one of the monkeys is decisively beaten. If monkey *B* is the conqueror, monkey *A* will thereafter avoid his enemy, and thereby render himself inaccessible to the incidence of the stimuli contained in *B's* aggressions, challenges, etc.

The third phase of the experiment requires the return of *A* and *B* to the cages which they occupied during the first phase. *A* again spends much time pacing the floor of his cage in an apparent quest of satisfying activities, and for a while will show signs of endogenously determined quests of combat. He will bristle, as formerly, and start to ascend to the level of the cage (usually the shelf near the top) at which his old enemy is to be found. But before he reaches the enemy he ceases to bristle and turns his activities in some other direction. These abortive responses to the fight-urge become increasingly less apparent until, after a few days, they do not appear in his behavior at all. If the conqueror, *B*, issues a challenge to combat, *A's* most characteristic response is to turn his back and yawn.

The behavior elicited by these experiments has thus been described at length because it stands in striking contrast to the psychopathologically much more significant behavior of monkeys which were used in the experiments described in the next paragraph. Monkey *A* exhibited that kind of inhibition which seems merely to result in decreasing responsiveness to a situation, responsiveness which proves to be disadvantageous. *He disclosed no significant indirect responsiveness* to endogenous and exogenous stimuli which originally led him to fight with monkey *B*.

3. *The tendency to react indirectly to stimuli, direct responsiveness to which is habitually inhibited: when an organism is unable to acquire relatively complete unresponsiveness to a stimulus, direct responsiveness to which is disadvantageous, it tends to react indirectly and, usually dysteleologically, to the stimulus. This is a behavioristic formulation of Freud's most important finding in psychopathology:* In psychoanalysis a psychical "unconscious" is posited to explain the manifestations of this tendency which, as I will show, is experimentally demonstrable in the behavior of monkeys as well as in that of men. The inhibition of primary adjustive impulses is assumed by the psychoanalysts to be a necessarily psychical act, a psychical censorship is assumed to prevent future direct expression of such impulses, "unconscious" psychical mechanisms are supposed to determine the modes of indirect reaction to the inhibited primary impulses, and the inhibited primary impulses are assumed to lead a quasi-independent existence in some sort of weird psychical entity which is designated "The Unconscious." The hypothesis gives us such scientifically unmanageable terms and concepts as *"repression," "libido," "conversion," "over-determination"* and *"censorship"*—unmanageable, because they are based upon assumptions which cannot, by any conceivable method, be checked to the satisfaction of persons who prefer the attitude of the scientist to that of the advocate. It is so very true that man *does* tend to react indirectly to a great variety of endogenous and exogenous stimulations, and the possibilities for making practical use of this fact for the explanation and control of behavior are so alluring, that even scientific psychologists have shown a disposition to let pass a host of untenable psychoanalytic dogmas. The psychoanalysts assume, usually with a high-handed intolerance of any reservations on the part of the behaviorist, that indirect reaction is reaction to a continuously present primary adjustive impulse (repressed desire), and wholly to ignore the possibility that it may be the *primary stimulus* which remains dynamic for behavior rather than the *inhibited primary adjustive impulse.* Even Dunlap,[95] who has shown an inflexible hostility to psychoanalysis, seems to have missed this point. The following is quoted from his book, *Mysticism, Freudianism and Scientific Psychology:*

"One term which the psychoanalysts have introduced is a somewhat valuable one for general purposes, although not strictly de-

scriptive of the situation which it is intended to indicate. This is the term *wish-fulfillment* and refers to the tendency in human nature to get by an indirect route the fulfillment of these desires which it cannot obtain in a more normal manner, or at least to obtain in thought, satisfactions which cannot be obtained in actuality. The concept therefore is not actually of wish-fulfillment in the literal sense, but of wish-deception. This concept comes out most clearly in the phenomena of dreams * * * ."

If the psychoanalytic concept of wish-fulfillment referred to more or less clearly conscious, *directly experienced* (therefore verifiable in terms of what the subject can report as direct experience) rejection of a primarily arising desire, and a substitution of a more expedient or personally more acceptable desire for the rejected one, Dunlap's statement could pass unchallenged. But the psychoanalyst's concept of wish-fulfillment refers to behavioristic mechanisms which determine the ultimate effector connections for the distribution of neural impulses which cannot flow through inherently or habitually established arcs for their conduction because this would lead to some sort of disadvantage for the organism. In giving psychologic values to these mechanisms Freud's followers have assumed that it is a retained psychical dynamic entity—a repressed desire —which determines the indirect reaction rather than a deflected conduction of stimuli which must find some other outlet to effectors (for either psychical or overt reactions) than the inherently or habitually established ones because the appropriate receptors cannot acquire complete unresponsiveness thereto. My quarrel, as a behaviorist and a psychopathologist, with psychoanalysis is comparable with that of the mid-nineteenth-century geologists with the theologians: the psychoanalysts demand that we accept unverifiable dogmas and make our orientations to the structural and physiologic bases of behavior conform to such dogmas.

There is given in what follows an account of the experimental isolation of dysteleologic "wish-fulfillment" behavior in *pithecus irus* and *pithecus rhesus*. The experiment described below was repeated many times with various monkeys of my collection for subjects.

Timmy, a male *p. irus*, and *Kate*, a female *p. rhesus*, who were respectively *Monkey 10* and *Monkey 3* of my previously published *Sexual Tendencies in Monkeys and Baboons*,[96] were cage-mates during this particular period of their experimental confinement. A

description of my experimental cage is essential to an understanding of what follows:

The cage was 6 meters high, 16.9 meters long and 1.8 meters wide. The front, top and upper halves of the rear and ends of the cage were covered with wire netting, the meshes of which were 1.4 centimeters square. The lower halves of the rear and ends were solidly boarded to give stability to such a tall narrow structure. The cage was subdivided into eleven compartments by partitions, of which the lower one-third was wood and the upper two-thirds wire netting. Within 72 centimeters of the top of each compartment was a horizontal shelf, 30 centimeters wide. Each compartment was equipped with a sleeping box, a food drawer and a door at the rear which gave access to the experimenter and the man who cleaned the cages. During the several days required for the experiment a male and a female monkey were confined within one of the eleven compartments of the cage other than an end-compartment.

During the first few days that Timmy and Kate were thus confined together Timmy simply bullied his mate without attempting to injure her. Then, while the two monkeys were sunning themselves on the high-up shelf, a dog was introduced into their compartment, where he wandered about, sniffing the floor. I stationed myself at a place from which the behavior of the three animals could be observed without their being affected by my presence. Timmy's first response to the situation was a cautious descent from his shelf to the floor of the cage. At first the dog and monkey simply played together, but after a time the monkey made persistent efforts to copulate with his canine playmate (a male), and the dog as persistently evaded the issue in the manner that is characteristic of his species. Timmy now fluffed out his fur, bared his teeth and attempted to bully him, but the dog growled and snapped at his tormentor, in reaction to which Timmy hastily beat a retreat up the side of the cage until he was about five feet above the floor. The dog barked savagely and leapt upward, as if to seize his enemy. The monkey hastily retreated farther up the cage, and the dog ceased barking and lay down as if tired of the game. Timmy now descended a few feet, and from a safe distance above the floor fluffed his fur, bared and gnashed his teeth and croaked angrily, after the manner of a bluffing monkey. This evoked fierce barking

and upward leapings from the dog, and the monkey ceased his hostile demonstrations until the dog had again subsided. After another attempt to bluff the enemy had only served to elicit the terrifying barking and leapings the monkey ignored the dog altogether, and began to look about him in various horizontal and upward directions, angrily gnashing his teeth, as if sighting an enemy who might be located anywhere but upon the floor from which the now thoroughly aroused dog continued to bark at the "treed" monkey. Kate was flattened, out of sight, upon the high shelf, and all the monkeys in the other compartments were either similarly hidden or secluded in their sleeping boxes. With no other possible enemy in sight but the dog, which was giving unmistakably demonstrations of enmity, Timmy continued to gnash his teeth, to croak angrily and to peer threateningly in various directions, *but wholly to ignore* the dog. Slowly ascending one side of his compartment, and apparently in quest of an enemy, the monkey reached a point at which it was possible for him to see the tip of Kate's tail hanging over the shelf. As soon as he had sighted this trace of his unoffending mate he made a dash for the shelf and attacked her so savagely that it was necessary to open the door and give her an opportunity to escape.

Repetition of this experiment with Timmy and the same dog, but with a small female baboon who was better able to defend herself in the place of Kate, elicited a series of reactions similar to the first, excepting that Timmy merely descended a few feet from the shelf, leered at the dog, abruptly ignored him when the angry barkings and leapings upward began and again sought an enemy in another direction. His discovery of the baboon, with whom he had been living on very affectionate terms, at once elicited an angry attack from which he emerged slightly victorious but badly bitten.

Other males displayed the same tendency to discontinue direct responsiveness to the dog after bluffing reactions had failed to intimidate the enemy, and to attack conquerable but hitherto normally treated mates. The same tendency is clearly apparent in the behavior of monkeys which have their freedom in the woods. There is always more or less contest, not only among rivals for leadership and the possession of females, but among young males for friendly tolerance of the band as a whole. The successful bullying of one young monkey by another usually means that the bullied one becomes, for a time, an object of persecution on the part of the band.

This observation establishes the significance, I believe, of the fact that if such a monkey is challenged to combat by one of superior strength or bluffing ability he will ignore, if possible, the aggressions of the challenger and exhibit hostility toward a fellow whom he can bluff or defeat in actual combat. Such behavior often saves him from further aggression on the part of his persecutor and seems to improve his standing in the band.

It is a familiar observation that a man who "makes a fool of himself" in public is apt to go home and search for a fault in his wife to which he can react irritably. He cannot, without discomfort and actual impairment of the adequacy of his social reactions, continue to react directly to recalls of "having made a fool of himself," and so, like the monkeys of my experiments, he reacts to them indirectly. Every psychopathologist knows that a boy who has masturbated during the night or early morning tends to "pick a fuss" with some member of the family at the breakfast table, to find fault with his food, or to complain of vague physical discomforts. A clinical generalization which is equivalent to that with which No. 3 begins is not difficult to arrive at without resorting to forced and unverifiable psychomorphic interpretations:

Somatic discomforts and disabilities, and dysteleologic overt adjustive movements which are obviously not due to toxic, traumatic and other gross interferences with vegetative and behavioristic functions, and which cannot be explained as direct reactions to any kind of discoverable stimulation, ought always to lead the clinician to a quest of stimulations to which the patient is more or less continuously subjected, to which he cannot acquire actual unresponsiveness and to which he cannot react directly without suffering a real or imagined disadvantage.

A great variety of stimulations which are reacted to indirectly in the form of nervous symptoms will be identified by the clinician who maintains his orientation to a few relevant facts and interpretations of neural morphology, neural physiology and behaviorism, and who is not frightened into a denial of his obligation to the nervous patient by the elaborate pretensions of a psychomorphic psychopathology. What the psychopathologists (including the psychoanalysts) actually know, in a usable form, about the pathology of human adjustive functions is much less extensive and, in my opinion, easier to grasp than what the average well-read

internist knows about the somatic processes that are initiated by bacterial infection.

A consciously held desire of which the patient is ashamed may be regarded as a psychical reaction which is apt to become, secondarily, a stimulus to which he is apt to inhibit direct responsiveness and to react indirectly. The recall of a shameful act which has already been committed may be evaluated in the same way. A little tact will usually be sufficient to induce the patient to disclose the shameful desire or the awareness of the shameful act. But if the desire or the awareness of the shameful act is not present in consciousness, and if inhibitive mechanisms render its recurrence in consciousness impossible, we are dealing with something else, viz., the establishment of reaction-arcs for an undesirable deflection of the recurring stimulus from the reaction-arcs which it initially transversed for the determination of the now nonexistent shameful desire or unwelcome recall. Of course the patient cannot now report, as once he might have reported, the desire or recall: *they have ceased to be* in the sense that my pain of yesterday, not now present, has ceased to be. But he can report to you the incidence of stimuli to which he is currently subjected, and if none of these accounts for his symptoms you must look to the symptoms themselves for clues to their determination as indirect reactions to discoverable stimulations.

4. *Clues to the Determinants of Indirect Reactions:* The foregoing discussion defends the thesis that indirect reactions are elicited by stimuli, direct reaction to which has been inhibited. What kinds of stimuli are apt to elicit indirect responsiveness? Before the war the psychoanalysts were very positive that sexual stimuli—of endogenous or combined endogenous and exogenous origin—were exclusively capable of eliciting hysterical and most other indirect reactions. I now recall with amusement how two prominent American psychoanalysts literally cursed me in their angry impatience with my suggestion that other than sexual stimuli might result in what Meyer[97] had aptly designated "substitutive reactions." Salmon's[98] studies of the war neuroses showed that conjointly acting exogenous and endogenous stimuli which primitively incite purely self-maintaining activities of the protective and ameliorative types may fail of expression in direct responsiveness and lead to seriously

morbid habits of indirect reaction. This is now so universally conceded that it needs no further defense.

It is my opinion that many decades of patient behavioristic research must precede a satisfactory answer to the question which has just been proposed. Meanwhile, in using symptoms as clues to the stimulations which determine them it is helpful to type particular symptoms according to their teleologic values. Nervous symptoms which are defensive against the rise of painful or otherwise disadvantageous awareness usually betray themselves as such. The same is true of symptoms which have a substitutive value in the sense that they are indirect reactions which attain positive ends similar to the ends which would be attained by direct reaction to the incident stimuli. Case 8 of the survey (Chapter II) presented typical indirect reactions of the defensive type. This patient had hysterical nausea and anorexia as indirect reactions to endogenous stimuli (masturbation) to which the primary, direct reactions were largely psychical: painful sense of degradation, "loss of face," etc.

Timmy's unjust and dysteleologic assaults upon his poor mate were typical substitute reactions. Valuable suggestions for typing symptoms of the indirect-reaction group are contained in Holmes'[99] classification of the forms of animal behavior. He classifies the two observable types of activities of animals in two main groups: *nonadaptive* and *adaptive*. Adaptive behavior is subdivided into two main subdivisions: *self-maintaining* and *race-maintaining*. The self-maintaining subdivision includes various *sustentative, protective* and *ameliorative* activities; the race-maintaining, various *sexual, parental* and *social* types of behavior. Both field and experimental observations of monkeys convince me that some forms of social behavior have an exclusively self-maintaining value, hence I would amend his classification to that extent.

The biologist, whether his interests are in nontechnologic problems or in technologic ones like those of the physician and the scientific agriculturist, asks of a given nonadaptive activity of a living thing, "What end would this activity serve if it were manifested under appropriate conditions?" The answer to such a question is one of his best available clues to the determination of the nonadjustive activity. The same procedure has long impressed me as having great value in making symptomatic indirect reactions disclose their own determination. It can become generally effec-

tive in psychopathology only as this branch of medicine obtains the broad phylogenetic perspective that has meant so much to human morphology and physiology.

Reference to many detailed points of practical importance have been omitted from this chapter which would have been included had it not seemed best to discuss them as they arose in the presentation of clinical cases (Chapter II).

CHAPTER X

UNSATISFIED MAJOR CRAVINGS

1. *Thorndike's Principle of Readiness:* Primates appear to be subject to the incidence of specific endogenous stimulations which impel them to engage in activities which are likely to satisfy corresponding basic needs. Some of these stimulations (in man) determine psychical reactions in the form of longings, some of which are held in consciousness as desires for specific satisfactions, whilst others give merely a sense of restless unsatisfaction. Other of these stimulations seem to lead more directly to overt behavior, and to elicit psychical reactions only secondarily, or none of especial importance for behavioristic estimations of their reactive values. In order to avoid awkwardness of terminology in the discussions which follow I have somewhat loosely employed the term *craving* to designate both the physiologic processes and the psychical reactions which impel the organism to engage in activities directed toward the satisfaction of its basic needs. The term *satisfaction,* when used here as a substantive, may be taken to refer to the attainment of any of the ends of such activities, whether these be resultant psychical reactions of the appropriately pleasurable type or mere furthering of somatic advantage unattended by any discoverable psychical reactions. If the subject reports that he has received a particular satisfaction or that he longs for one we are dealing—to the extent of the information which he thus gives us—with a psychical reaction. If he cannot or will not make such reports it is unnecessary to indulge in speculations as to what, if any psychical reactions may attend the behavior in which we are interested.

In 1913 Thorndike[100] adduced a *principle of readiness* to account for the behavior under discussion here, and assumed that "the activities of the neurons which cause behavior are by original nature often arranged in long series involving all degrees of *preparedness* for connection-making on the part of some as well as *actual* connection-making on the part of others."

Thorndike employed the term *conduction-unit* to designate "whatever makes up the path which is ready for conduction." He would

now doubtless wish to modify his 1913 formulation of the *principle of readiness* with reference to more recent findings in neural physiology, but at the time of its appearance his assumption that *"for a conduction-unit ready to conduct to do so is satisfying, and for it not to do so is annoying"* seemed to me to be an important step in the direction of explaining the nervousness of discontent.

In 1911[101] I published a discussion of a neurasthenic syndrome which is often attributable to the patient's inability to satisfy one or more constantly recurring major cravings, and in this I resorted to Wundt's *tridimensional theory of feelings* in an effort to explain the morning lassitude, restlessness and disagreeable sense of inner tension which enter so prominently into the experience of such patients. When Thorndike's above-quoted propositions were published they sharpened my interest in appropriate field studies of infrahuman primate behavior, and Cannon's[103] *Bodily Changes in Pain, Hunger, Fear and Rage* gave me a new physiologic orientation to the problem. My present formulation of the facts dealt with in this chapter is as follows:

If any of the basic needs of a primate remain unsatisfied for a considerable period of time, appropriate endogenous stimuli are apt recurrently to dominate the organism's adjustive functions. At such times striped-muscle and visceral innervation tend to be persistently set for the quest and utilization of whatever may be required to satisfy the unsatisfied needs.

2. *Field and Clinical Observations:* Descriptions of particular cases might be endlessly multiplied to illustrate the fact that endogenous factors are often sufficient to determine a state of bodily preparedness for satisfying denied needs. Thus the sheep herder and his dog may be separated by several days' journey from females of their respective species, but this does not free them from the rise of periods of restlessness during which their sex organs are innervated for immediate copulation. In all cases of organic preparedness for the satisfaction of urgent needs there are, surely, appropriate changes of neural, endocrine and other somatic functions which, if too persistently present, result in more or less serious impairments of comfort and efficiency. It is of much practical importance, in my opinion, to add to our knowledge of basic primate needs, and to study the mechanisms which are set in operation by their persistent denial.

"Man does not live by bread alone" is an aphorism which has a psychopathologic as well as a religious significance for many women. This is also true of an interesting class of men in Southern California who have come from the middle-west and more easternly regions after having abandoned useful occupations. Productive occupation, access to familiar sources of gregarious satisfaction, harmonious domestic conditions, freedom to pursue and opportunities for pursuing various sexual-romantic values, conditions which make for the incidence of a considerable variety of stimulation,—these factors must enter into the life of the average individual if his reactive equipment is to function smoothly.

My survey and, immediately preceding it, a period during which I had unusually favorable opportunities for studying the behavior of country people, disclosed an interesting type of situation which makes for persistent unsatisfactions of major cravings. The soil there in the farm country of my studies is heavy clay, and where there are no paved roads the farmer cannot use his automobile during the winter and early spring months. Unless his farm is near a road which is classified as an intercounty or state highway, or one which serves a farm owned by a county commissioner, he may not hope for relief from this disadvantage. When such a farmer—or his wife, or adolescent children—begins to complain of morning lassitude, persistent, uncomfortable inner tension and insufficiency of gastrointestinal functions, he may be expected also to complain that he has a persistently recurring craving for some satisfaction which he lacks. It may be that he craves more money, or less discord in the household or a more interesting occupation; but in the majority of cases none of these cravings seem to be thwarted to a sufficient degree to account for his pathogenic discontent. He will often tell you that he cannot define the object of his longing: "I just seem to crave something—I don't exactly know what." With the advent of the season during which the clay roads are accessible to automobiles he usually improves, although this is also the season during which his work ties him to long hours in the fields. Nevertheless, on Sundays, holidays and for a few weeks after hay and wheat harvest he does a good deal of motoring. State and county fairs, cheap village vaudeville performances known as "Chautauquas," errands to village shops, appallingly dull sermons in village churches and similar occasions for "going somewhere" are not

sufficient to meet his needs. "Can't you think of some place to go?" is a frequent inquiry in such a farmer's family. The tendency to seek *variety of stimulation,* which is so apparent in the behavior of monkeys and young children, is also a potent determinant of the behavior of adults.

The farmer's need of variety of stimulation has led to some interesting developments in middle-western county seat towns. Some of the chiropractors with, let us hope, a saving sense of humor, cater to the restless farmer by selling him 25 "treatment tickets" for $20.00. It is not uncommon to find a farmer who takes advantage of such therapeutic bargains by laying in a supply of tickets for use when the roads are good, the farm-work not pressing and the need of an objective for a motor trip urgent. "It won't hurt me, and it is something to do," one farmer informed me as he set out to take a chiropractic treatment for no particular illness, but because he "might as well use his tickets."

"Pa was just fine while his brother Will was on from Kansas last winter," a farmer's wife informed me. "He could eat anything while Will was here. You didn't hear no talk about being dog-tired in the morning, goin' round all day with a lump-of-lead feeling in the pit of his stomach and a misery in his back, or his head, or his bowels. They played checkers, went hunting, talked over old times and had such a good time!"

The internist is not apt to overlook unsatisfied cravings for clearly defined, highly valued satisfactions, but it has been my experience that not only country people, but women everywhere and in all walks of life suffer a great deal from thwarted cravings for *adequate variety of stimulation,* and that this familiar cause of nervousness is too often not identified by physicians. "She is a restless neurasthenic" may often be interpreted to mean, "She is tense, tired in the morning and subject to intractable gastrointestinal disorders because she is restless."

Therapeutic management of these cases taxes the physician's ingenuity, but if he have at all the spirit of the promoter he can often change the patient's reactive relationship to external conditions by kindling enthusiasm for satisfactions which are available for her. This must always be done, of course, in terms of the individual patient's temperament, personal resources and external situation. Richard Cabot's[104] *What Men Live By* often proves to

be a useful introduction to the physician's efforts to train a patient to make full use of present opportunities for obtaining an adequate variety of stimulation.

3. *The "Creative" Type of Unsatisfied Patient:* A numerically important class of nervous patients cannot be adequately understood save in terms of an outstanding temperamental trait which seems to be traceable to the relatively high potence of cravings for creative activity. These patients are usually found to have been distinguished in childhood for tendencies to make new things, to invent new games, to be prematurely inclined toward specialization of interest and occupation, etc. When they reach early adult life they do not thrive under conditions which require daily repetition of stereotyped, routine occupations. The housewife whose domestic and social activities are of cut-and-dried order which has been determined for her by the traditions of past generations; the spinster who is required to adapt her life to the tastes and habits of her parents because she lives with them and is dependent upon them for support; the clerk with a family which ties him to his job as the only safe and sure means of meeting his economic obligations; the son who is held to his father's business under conditions which require him to conserve that which has already been created rather than to attempt any new constructions,—all such persons, if they possess highly potent cravings for creative activities, are typically apt to complain of morning languor, "nervous indigestion," constipation and inability to acquire a comfortable reactive relationship to conditions which may seem, to the ordinary observer, to be normally conducive to contentment.

Among mammalians we find very important urges to effect particular constructions which are repeated without important variations by all individuals of a given age, sex and species. Thus the elaborate constructions of beavers, gophers, prairie dogs and other rodents closely follow innately predetermined lines. A little higher in the phyletic scale, as among ruminants, exclusively carnivorous animals, bears, raccoons and swine, we find less elaboratory constructed domiciles and less stereotypy of construction. But among all mammalians with which I have familiarity that are below the primate level, the daily activities of the individual so closely follow a species-pattern that we cannot clearly identify in their behavior

a significant tendency to seek variety of stimulation, or a tendency to seek to effect new constructions.

One of the outstanding features of the infrahuman primate equipment is that which is commonly referred to as the monkey's curiosity, and which my studies of their behavior have led me to identify as *a tendency to seek variety of stimulation.* I was able to give my monkeys the freedom of a large live-oak woods near Santa Barbara, California, and to study subjects which were born under such conditions. It might be expected that these animals' activities would always bear a more or less direct relation to such definite biologic goals as preparatory plays, food-getting, mating, social adjustments, etc., but it was typical of my subjects that they engaged in many activities which could not be adequately described except in terms of a quest of new varieties of stimulation. The appearance of this tendency in the infrahuman primate reactive equipment as a distinguishing trait of the highest zoological order is significant for an explanation, not only of the difference between infrahuman and human mammalian construction, but of the prevalence of the so-called creative type of individual among nervous patients. Prairie-dog colonies of 10,000 years ago doubtless differed in no essential way from prairie-dog colonies of today, but the human colonies of only a few generations ago are strikingly unlike those in which we now live. The quest of varied stimulation leads to nothing that is concretely constructive in the behavior of monkeys and that of the rank and file of humankind. But here and there we find men and women in whom this tendency seems to have attained a higher or more elaborate development, and to have become directed toward the attainment of definite biologic goals. We have, in consequence, electric street lights, automobiles, the modern office building, radio-phones and an almost inexhaustible list of other new constructions which express the cravings of that class of individuals whose tendencies to seek variety of stimulation have specific direction in creative activities.

Southern California abounds in nervous persons who have come here in quest of better health than they have been able to secure east of the Sierras, and I have found among them a relatively high percentage of cases in which a serious degree of nervousness has seemed to have as its most proximate determinant a persistent thwarting of creative cravings. The central fact in the life of such

a patient is that he has never been able to convince himself or the world that he can write successful plays, poems or novels; paint salable pictures; compose or produce music which will bring him recognition; act on the stage acceptably, or design buildings. Give him opportunities to construct new things to his own satisfaction and that of the public, and his problem is solved; otherwise, he slumps into a state of nervous semi-invalidism from which he may not hope to emerge. Editors who take kindly to short stories which come from hitherto unknown Californians; moving-picture and theatrical producers who accept an occasional play which is not ground out in their own mills for the production of such work; guileless easterners who come here and commission a certain type of eager, often very competent, but inexperienced self-pronounced architect to produce something new under the sun,—these and various other arbiters of the destinies of would-be novelists, playwrights, architects and the like often accomplish unknowingly what we physicians cannot accomplish. I have known one brief note of acceptance from an editor literally to cure a colitis which had baffled the best internists on both coasts—and I have known a considerably larger number of cases in which a bad slump has followed the receipt of a printed rejection slip.

CHAPTER XI

REACTIONS TO INFERIORITY

1. *Adler, Kempf and the "Inferiority Complex":* Psychoanalysis had made popular a phrase which has some sort of significance for almost everybody who hears it. It is the *inferiority-complex* concept which so caught the fancy of literary opportunists a few years ago. Kempf[105] has amended Adler's[106] theory of organic inferiority in the interests of a more thoroughgoing psychomorphic interpretation of abnormal behavior than in my opinion this theory requires. Since Kempf's discussion of inferiority-reaction is, perhaps, the best presentation of the subject from a psychoanalytic viewpoint that has yet appeared I will quote him at length in what directly follows:

"Alfred Adler emphasized the importance of organic inferiorities as the cause of distressing compensatory strivings. The important fact is that it is the individual's *fear of his organic or functional inferiority* that forces him to make compensations that later, as eccentric claims, in turn may themselves become inferiorities because of the criticisms, loss of confidence and ridicule which they arouse; as the flaunting of heroic or sexual conquests by the effeminate male dandy. The inferior organs, as undescended testicles or effeminate face, voice and physique in the male, is not the fundamental cause of the eccentric compensation, but the fear of ridicule is the cause. We find that some men, who are decidedly unsexed by nature, are able to live their anomalous biologic and social careers quite comfortably because they have been wisely trained from infancy to maturity to accept their organic defects and attempt no compensations which later may become causes of distress. On the other hand, many people are to be found who are organically well constituted and, professionally, decidedly skillful, who cannot escape feeling a pernicious sense of inferiority which must be protected in every conceivable manner. This may be due *in some instances* to the prejudiced training in childhood, or an unredeemable act of perverseness or cowardice, but it is necessary to look for a more general cause of anxiety in certain forms of func-

tional inferiorities. It may be safely assumed that all functional inferiorities, in vocations or hobbies, as of the mediocre surgeon or musician, in themselves, occasionally cause anxiety, but this occurs *only* when circumstances place too much responsibility upon the act and arouse fear of failure. Hence a form of functional inferiority that interferes *constantly* with the struggle for heterosexual virility and biologic fitness must be considered to be the critical factor. As such, the psychopathologist finds that *wherever men or women are sexually inferior to the ideals of their associates, due either to organic unfitness,* as masculine traits in the female or effeminate traits in the male, or *functional inferiority,* as the tendency to autocroticism or sexual perverseness in either sex, *they feel a pernicious sense of inferiority from which they are forced to protect themselves in some manner.*

"The methods of *defense* for inferiority vary greatly, but may be correlated into three general types. They are either (1) *avoiding competition,* or (2) *eliminating the inferiority,* or (3) *developing a protective superiority* in some other organ or function. *Either adjustment tends to become extreme and eccentric if the fear of the consequences of the inferiority is pernicious and quite continuous, whether the individual is conscious of it or not: then the compensation may become so eccentric as to constitute an inferiority also!*"

In his summary of the chapter from which the above is quoted Kempf[107] makes the following statement:

"Only those organic inferiorities are compensated for which tend to jeopardize the biologic career of the animal by being conducive to failure in the *struggle for life* and *sexual favor*—in man the struggle for *sexual favor* and *social esteem,* social esteem being an elaboration of the sexual interests, is to be given precedence except, perhaps, during war."

2. *Behavioristic Evaluations of Inferiority Reactions:* Kempf's observations and interpretations are those of a psychiatrist, and are therefore largely based upon studies of a class of patients whose adjustments to the fear of the consequences of inferiority are apt to be extreme and eccentric. My own views of the matter have been determined by comparative studies of mammalian adjustments to inferiority, including those of the nervous patient. Kempf does not refer to the submissive types of maladjustment to inferiority (or the fear of its consequences), but in my clinical work I have

found these to be fairly common and of considerable importance. Twenty-seven of the 200 patients of the survey disclosed definitely pathogenic maladjustments to inferiority, and 24 of these were found to be reacting submissively to this factor. Direct, indirect and conditioned fear reactions to inferiority are, of course, to be expected in these patients, but among noninstitutional cases one usually finds that those who attempt compensatory adjustments are not subject to attending fear reactions save at critical moments when such adjustments appear to the patient to be no longer compensatory. Kempf would doubtless find this observation consistent with his psychiatrical experiences, since he deals with cases in which the development of a psychosis seems to be importantly determined by the persistent failure of compensatory reactions and a consequent persistence of fear-reactions.

Behavioristic research gives support to Kempf's view, I believe, that functional inferiorities as well as the organic inferiorities to which Adler calls attention may lead to serious maladjustments. Field and some roughly experimental observations of cattle, horses, swine, cats, dogs and monkeys have shown me that an organically sound individual who is physically well-equipped to hold his own may become a voluntary outlaw from the herd or band in response to a purely functional inferiority. A decisive defeat in combat during adolescence may have led the future outlaw to react submissively to all further aggressions, even on the part of the youngest and weakest of its fellows, until it has come to react to the mere proximity of any of its kind as to a menace. In these cases I have found it interesting to force the outlaw to react other than submissively by confining it with an aggressive fellow. If care were taken to choose a physically less well endowed combatant, the outlaw's initially defensive kicks or bites would lead to more positive aggressions on his part until he became the one who could exact submission. With some care the herd outlaw could thus be cured of his functional inferiority and, in some cases, even become the herd bully. The tendency of the monkey to compensate for inferiority by "bluffing" renders him an especially valuable subject for experimental studies of inferiority reactions of both the submissive and the compensatory types, but I have found that cattle and horses are also of value for this purpose.

It is my opinion that a broader phylogenetic perspective would

incline Kempf toward qualifying his statement that quest of social esteem is "an elaboration of the sexual interests" and that, by implication, the struggle for sexual favor and its elaborations are to be given precedence in our explanations of functional and organic inferiority. My earlier experiences as an institutional psychiatrist and my subsequent, much less extensive, contacts with insane patients incline me toward the view that the psychoses reflect the pathologic value of race-maintaining maladjustments much more frequently than they do that of self-maintaining maladjustments; but insane patients, are, as a class, numerically and economically of less importance than are the patients whose behavioristic dysfunctions do not require institutional care. Intensive studies of the latter class of patients have not suggested, in my experience, that pathogenic functional and organic inferiorities are referable to the sex instinct and its known (as against speculatively determined) elaborations in as large a proportion of cases as the institutional psychiatrist is apt to assume. The detailed discussions of the patients of the survey (Chapter II) disclose, in part, the clinical grounds upon which this statement is based. *Cases 76* and *134* will be found to be of interest in this connection, as disclosing reactions to functional inferiorities which can be adequately explained without reference to the sex instinct. Even in those cases (which are frequently encountered in my experience) in which a functional inferiority is most proximately traceable to masturbation one will often find that primarily nonsexual factors underlie the adjustive insufficiencies. *Cases 74* and *9* were masturbators whose functional inferiorities may seem, at first sight, to have been clearly due to sexual-adjustive dysfunctions; but we must not lose sight of the fact that even in these cases the generic adjustive problem which each patient faced was contained in his original fear *that he might not prove to be competent to obtain satisfaction of whatever he might most ardently crave.* The average boy passes through a period during which he most ardently craves various satisfactions, none of which is classifiable as emanating from the sex-instinct unless we effect a most absurd extension of the connotation of this term in behalf of speculative demands. The average boy of my observation begins the development of his functional inferiorities during a period when girls bore him, and when his plays have a preparatory value for adult self-maintaining activities. If these inferiorities—

or the fear of them—subsequently bring failure in the struggle for nonsexual satisfactions he is apt to fall back upon a too exclusive dependence on sexual satisfactions for his daily measure of contentment; and if the inferiorities bring failure in the struggle for these satisfactions he is apt to resort to phantasy-construction, autoeroticism, grossly dysteleologic avoidance of competition or extreme and eccentric compensatory adjustments.

3. *Submissive Reactions:* Thorndike's[108] discussion of this type of reaction to inferiority deserves greater recognition by the psychopathologists than it has yet received. The death-feigning of opossums and, still lower in the scale, of various arthropods, suggests a starting-point for tracing the phylogenesis of its equivalent in human behavior. Higher in the scale, we find that when the puppy is approached by a strange adult dog the former rolls over upon his back in an attitude of complete submission to the stranger. Among primates below man submissive reactions occur in a variety of forms. I have described one interesting type of this behavior in a previous publication: the tendency of a younger or weaker monkey to assume the female position for copulation when attacked by an older or more powerful fellow of either sex. The nursling monkey which has developed to a point at which it can scamper through the trees in company with its mother will sprawl upon the ground as if utterly helpless and utter piercing screams if the mother separates herself too far from it and appears to be unresponsive to its initially complaining croaks. If a monkey is ill or sufficiently impaired by an injury to interfere with its capacity for fleeing or fighting it will grossly exaggerate the evidences of its disability when it is in close contact with other members of the band to which it belongs.

The tendency to exaggerate evidences of disability, which enters so strikingly in the behavior of monkeys is also a part of the human reactive equipment. Children notoriously exaggerate the evidences of their natural immaturities of development when they have need of adult supplements to their own adjustive capacities, or when they fear that their incapacities will not be taken into account by their elders. The adult American who is thrown in more or less intimate contact with a titled Englishman is apt to exaggerate evidences which support his plea for special consideration as the product of a crude and vulgar civilization. The auction-bridge player who

boasts of his prowess at home will most abjectly deprecate his skill and exaggerate the extent of his inexperience when he is asked to "make a fourth" with three other men in a club where he has not previously been a guest. I am quite sure that when I have lumbago my movements are more restricted and give greater evidence of my sufferings and disabilities when I am in the presence of my family than when I am in the privacy of my study.

The need of acquiring the status of a physically impaired person has, clearly, the reactive value of an inferiority, and it is responsible for a great deal of the nervous patient's exaggerations of his discomforts and disabilities. In some cases it even seems to be the most important factor in the determination of the patient's nervousness. This point is discussed in the presentation of the 12 cases of the survey in which pathologically maladjustive reactions to this type of inferiority were factors of appreciable importance. The nervous patient is apt to be on the defensive as to the reality of his symptomatic discomforts and disabilities, and I have known cases where it has been evident that the skeptical attitude of the family and the attending physician has driven the patient to a defensive bed-invalidism.

4. *Compensatory Reactions to Inferiority:* A large volume might be devoted to this one phase of the problem contained in maladjustments to inferiority, but I believe that in spite of the vast amount of clinical material which such a volume could adduce it could offer very few dependable interpretations of actual facts of observation. In spite of many interesting explanatory speculations we do not know why one individual reacts submissively to his inferiorities, a second by avoiding competitions to which he feels himself to be unequal, a third by seeking to eliminate his inferiorities, a fourth by effecting teleologic compensations, a fifth by resorting to a compensatory alcoholism, a sixth by developing a manic syndrome, etc. It is less difficult, in many cases, to account for *the rise* of functional inferiorities, but even here we find many perplexing problems. There are individuals who go through life seriously handicapped by fears of inability to make good in the very directions in which they have demonstrated, by their achievements, superior capacities.

Behaviorism has little to offer by way of facts and interpretations for the psychopathologist's orientation to these problems. We

know that monkeys apparently seek to compensate for their physical inferiorities by bluffing or by exaggerating their helplessness, and that children disclose a general tendency toward compensatory reactions to their inferiorities in their affectations of the mannerisms and dress of adults, untruthful boasting, indulgence in day-dreams and cultivation of alternative satisfactions. But no research of which I am aware has ever had for its object the deliberate experimental checking of these findings of more or less uncritical observation.

Clinical analyses similar to those presented in Chapter II of this book have suggested to me that the development of functional inferiorities and of maladaptive habits of reaction thereto cannot be adequately explained without a considerable extension of our understanding of the mechanisms which determine what a given individual's major cravings shall be, why there are such marked individual variations of ability to be content with available satisfactions, etc. Inability to obtain satisfaction of a major craving because of personal incapacity seems to have been the most important determinant of functional inferiority and of reactions thereto in my patients. But unless I am willing to accept as surely valid or, at least, a safe guide to practical therapeutic action, speculative explanations, the counterparts of which would not satisfy me as an internist and a one-time agriculturist, I do not know why most of these patients react as they do to their inferiorities, once these are established. My respective capacities for playing the cornet, doing minor surgery, playing poker and writing poetry—with all which things I have dabbled hopefully—are so very limited that each has for me the reactive value of an inferiority, and I am thus led to seek my major satisfactions along other lines of endeavor. If the reception of this book should be such as to convince me that I am seriously a failure as a behaviorist, a psychopathologist and an author my initial reaction to this demonstration of my inferiorities along such lines would probably be in the form of a submissive depression, and I should feel, metaphorically speaking, like imitating the puppy who confesses by his behavior an absolute incapacity for combat in the presence of an older dog whenever I met a behaviorist, a psychopathologist or an author of scientific treatises. But sooner or later a new set of major cravings would develop, and determine my pursuit of apparently obtainable satis-

factions. Why all this is so or, most probably, would be so under the conditions just described in my case, whilst another man would find compensation in alcohol and a third man (if he were a decade or two younger) would fall into a serious psychosis, I do not know, and the explanatory guesses of the psychoanalysts do not afford me much greater enlightenment than do the explanatory guesses as to the etiology of cancer in which the pathologists, with commendable modesty, indulge without being dogmatic about it.

CHAPTER XII

SEXUAL BEHAVIOR

1. *Freud's Sexual Theory:* Late in 1907 I received from the importers Freud's[109] *Drei Abhandlungen zur Sexualtheorie, Sammlung Kleiner Schriften zur Neurosenlehre* and *Die Traumdeutung,* along with a monograph by Jung[110] which was inspired by Freud's teachings. At that time I was in the midst of a research which had for its main objective the experimental isolation of mammalian reactive tendencies which could be dealt with as physiologic properties of the organism, and in terms of which one might explain and deal therapeutically with morbid human behavior. Although Freud proceeded from a consistently psychomorphic standpoint, it seemed to me then, as it does now, that his almost allegorical and often far-fetched explanations of abnormal human behavior in terms of unconscious psychical mechanisms did not constitute the really valuable part of his epoch-making contribution to psychopathology. His remarkable genius for following the clues contained in dreams, unaccountable phobias, critical panics, hysterical paralyses, etc., until they led him to explanatory facts enabled him to make two invaluable contributions to our understanding of human behavior, both normal and morbid:

(A) *An exposition of the prepubertal tendencies that normally become integrated as the adult heterosexual instinct.*

(B) *An account of the "wish" as dynamic for behavior, and of its tendency to express itself indirectly, often extra-consciously and according to knowable principles whenever it is reacted to as an adjustive movement which calls for inhibition* (*repression*).

The foregoing discussions of inhibition and indirect responsiveness reflect, to a considerable extent, efforts to effect behavioristic translations of Freudian concepts; but the details of my own concepts as thus derived have been largely determined by field, laboratory and clinical studies which took their direction from the views and findings of Yerkes, Watson, Thorndike, Adolf Meyer, Loeb and Jennings. On the other hand, my studies of sexual behavior as

presented in previous publications and in the present chapter have very closely followed the suggestions contained in Freud's sexual theory. However widely I may depart from his concepts, interpretations, etc., in this chapter, practically every step in my studies of sexual behavior has had Freudian facts and interpretations for its point of departure.

With this acknowledgment of my dependence on Freud for the views that are presented in the following pages—even when such views are in direct conflict with those of the founder of psychoanalysis—it may be permissible to make this chapter a sort of behavioristic translation of his sexual theory into terms of my own investigations and interpretations.

(2) *Prepubertal Sexual Tendencies:* The child, at one time or another in its life, is, in a sense, autoerotic, narcissistic, exhibitionistic, inclined to play the rôle of "Jack the Peeper," incestuous, patricidal, or matricidal, homosexual, fetichistic, masochistic and sadistic. This observation is consistent with our knowledge of mammalian and, particularly, of infrahuman primate sexual behavior. This rather gruesome list of tendencies does not correspond to a list of consciously held desires which enter into the mental life of the child, and it cannot be included in the category of sexual components of the total human reactive equipment without important reservations. It is simply a list of prepubertal tendencies, any one of which, if functionally isolated and overdeveloped by pathogenic exogenous and endogenous factors, may fail to become integrated with the other tendencies for the development of the biologically complete heterosexual instinct of adult life, and so become an unbiologic substitute for this instinct. These tendencies are not all in evidence in the behavior of the child at any given period of its life, and there is yet to appear a satisfactory account of them based upon scientifically checked observations of fact. Von Hug-Hellmuth's[112] *Study of the Mental Life of the Child* contains much interesting material, but the author's obviously distorting prepossessions and frequent indulgence in psychologic interpretations which have long since been discredited by even the most hopefully psychologic of the comparative psychologists seriously qualify the value of her observations. They are too suggestive of the methods of those students of animal behavior who were criticized by Thorndike [113] as "holding a brief for animal intelligence."

Although it has never been economically possible to extend my experimental studies to those features of child-behavior which foreshadow and serve to explain the adult tendencies to do the things that are appropriate to the quest of a mate, the specifically procreative act and the avoidance of intrafamilial breeding, it is my opinion that this can be successfully undertaken by any person who has an adequate training in behavioristic research and who can finance such work. My previously published *Study of Sexual Tendencies in Monkeys and Baboons*[114] presents methods for arranging situations which can be modified and extended for purposes of child study without hardship to the subjects of such experiments. It would be costly, both in time and money, but the value of such work would be very great. In the absence of facts derived from actual experiments with children it is necessary to fall back upon material derived from adult retrospections, nonexperimental studies of child-behavior, clinical observations and comparable observations of infrahuman primates and other mammalians. In what follows I have followed Freud's presentations of fact as closely as my own experience and convictions will permit, but I have limited myself to that which I have been able to check by my own experimental and other kinds of observation.

3. *Autoeroticism (Not Including Masturbation):* Suckling calves, colts, lambs, pigs, kittens and puppies, and the human suckling tend to react to endogenous stimuli *other than hunger* and to exogenous stimuli *other than food* by sucking. A calf which has suckled its mother to repletion and has just been separated from her is apt to bawl and run about the pen as if seeking access to her. If it encounters another calf or the experimenter's warm finger it will suck vigorously, but if the calf is now turned out to run with its mother it will not suck her, but will follow along contentedly. The same type of behavior can be demonstrated with any of the other suckling domestic animals listed above.

The suckling infant, when too sleepy to play, insufficiently entertained, or put to bed by itself, is notoriously apt to suck its thumb or any plaything or other object which lends itself to this behavior. Thumb-sucking is not, in my opinion, necessarily preferred by the infant to the sucking of objects which are not part of its own body. The infant with whose behavior I have had current and intimate familiarity from the moment of his birth until

early adolescence sucked his Teddy-bear's nose and his own thumb impartially. Most of us are familiar with the avidity with which little children seem to take to the "consolers" with which they are often supplied by unwise mothers.

Calves which are brought up in separation from their mothers are apt to continue to suck one another's ears long after they have reached the normal weaning time. Children, too, often continue to suck their thumbs until they are several years old. We cannot doubt that the stimuli derived from sucking movements of the mouth and from contacts with the objects sucked satisfy some sort of normal craving in addition to the craving which comes from nutritional needs. We know, of course, that its indulgence in the form of ardent kissing by sexually mature human mates or potential mates has a definite biologic value for the reproduction of the species. Even the female *pithecus rhesus* seeks to bring her lips in contact with those of the male with whom she is copulating. In short, it is obvious that *in certain situations* sucking movements of the lips (in the human species) are part of a more or less integrated series of psychic and somatic reactions which lead to the injection of semen into the body of the female. Since the tendency to suck, which has at first a predominantly nutritional value, has ultimately a value for the perpetuation of the species, there is ground for regarding its manifestation in children in response to other than food and hunger stimuli as a prepubertal tendency from which is derived a component of the adult total (or compound) heterosexual tendency. On the other hand we must not forget that the nonnutritional sucking of young domestic animals is not easily interpretable as a future component of sexual behavior. It seems to me that Freud's[115] unqualified assertion that even nutritional sucking in the human infant is a sexual act reflects a lack of that biologic perspective which the student of behavioristic phylogenesis obtains from his comparative studies, and without which the psychopathologist is apt to resort to explanations of behavior which become too speculative and too remote from supporting facts to be safe. If one wishes to resort to psychomorphic interpretations of infantile behavior why not stick to the safe assumption that the infant, along with suckling pigs and calves and lambs, simply finds that nonnutritional sucking "feels good," and that it is suggestive of contact with the cherishing mother. This does not exclude the

further assumption that this prepares the child for seeking, later in life, sexual satisfaction from sucking (kissing) the lips of a person of the opposite sex. Infantile nutritional and "it-feels-good" nonnutritional sucking may also be a factor in determining the satisfaction which a man derives from sucking a pipe. It is of some significance that a man who has just indulged in a completely satisfying copulation is apt to enjoy his pipe or cigarette quite as keenly as he does after any other kind of vigorous exercise.

Since sucking of one kind ultimately becomes, in the human subject, a component of the total sexual act, the tendency to do sexual sucking (normally, kissing) may acquire an abnormally high potency at the expense of the other tendencies which normally enter into the integrated total act. When this occurs we have perverted sexual sucking. The steps that lead to this perversion are widely different in different cases. I have known cases in which fear of pregnancy seems to have been the first of a sequence of determinants. The wife seeks to satisfy her husband's desire by masturbating him, and thus avoiding copulation. This is especially apt to occur when she is popularly supposed to be in greatest danger of conceiving, which is also the time when her own desire is apt to be most urgent. From caressing her husband's sex organ with her hands, thence to rubbing her breasts with it and finally to sucking it has been the most frequently described sequence in cases of this type which have come under my observation. Among harlots the enormous overvaluation of sexual satisfactions and an apparent desire to seek variety of sexual stimulation seem to lead to this perversion in many cases.

The male's submission to the woman as the aggressor and the development of the habit of using his tongue to gratify the female or another male seems also to be due in many cases to overvaluation of sexual satisfactions and a tendency to seek variety of sexual stimulation. The prognosis in these cases is not necessarily bad, although I have known two cases—women—in whom serious paranoid developments followed enlightenment as to the horror in which this type of perversion is held by most normal persons.

4. *Anal Eroticism:* The healthy monkey that has not been perverted by captivity is often observed to retard the passage of the fecal cylinder through the anal orifice. One sees the monkey slowly eject a few centimeters of formed stool, then spread the legs apart

and move carefully as if seeking to prevent the extruded part from breaking away from the part that is still within the rectum. The complete expulsion of a single cylindriform mass may thus consume several minutes.

Freud[116] has called attention to the fact that children seem to seek the stimulation which comes from retarded expulsion of voluntarily retained and consequently bulky and rather dry fecal masses. It is likely that even the healthy adult's satisfaction in discharging a copious, well formed fecal mass from the bowel is not wholly due to a consequent relief from discomfort and an hygienic conviction. In the case of the infrahuman primate the biologist would infer that since defecation is an end itself, and specifically related to the self-maintaining needs of the organism, it is appropriate that the neural mechanisms involved in this act should bring a type of satisfaction similar to that which comes from the mastication of food. Speaking psychomorphically and still more teleologically, monkeys and men *need* to find pleasure in evacuations of the rectum for the same reason that they need to find pleasure in masticating food. In view of these considerations it seems to me to be subversive of sound methods of biologic interpretation to assume that the anus and rectum are normal secondary erogenous zones, and that the child's pleasure in defecation is a sexual pleasure. We know, of course, that the individual may become conditioned to react to anal and rectal stimulation as to sexual stimulation. This was known, incidentally, before Freud called attention to anal eroticism, and we are indebted to Pawlow, not Freud, for our present behavioristic evaluations of conditioned responsiveness.

Reminiscences of patients who have been willing to supply me with all sorts of usually inaccessible data have included clues as to how conditioned anal eroticism may come about. This material justifies, I believe, at least one generalization of some interest: boys and girls, it seems, prefer dimly lighted or dark places in which to indulge in erotic imaginations or, if they masturbate, in which to indulge in this habit. They desire, of course, safety from interruption and detection. These conditions are usually met when they are at stool, when a legitimate excuse is found for locking themselves in and drawing the window shades. Endogenous and, if they masturbate, exogenous sexual stimuli thus occur in con-

junction with the stimuli and satisfactions derived from defecation, and the anal zone thus becomes conditioned to have the sensory value of a sexual zone. One adult whose sexual life seemed to be quite normal reported that when he was about nine years old he began to have pleasant erections, but that he neither masturbated nor understood the biologic significance of his erections. He would seek the bathroom, which could be darkened, in order to be alone with his erections in a dark, quiet place. After a while whenever he was at stool he would have erections, and finally erotic day-dreams of an interesting kind seemed to come to him. He would construct a phantasy in which he and several of his boy friends held rendezvous in a bathroom with a huge, benevolent devil. The devil had the usual horns, spike tail and cloven hoofs, but he had also a lot of hooks, similar to those upon which one hangs clothing, growing out of his body. Each boy had as an essential part of his anatomy a ring, which grew out of the upper part of his backbone. The devil would gently pick up the informant and his little friends and hang them upon his hooks. The boys would then urinate and defecate, and as their excretions ran down the devil's body they would chant all the nasty words with which they were familiar. This brought great satisfaction to the devil and his little guests.

My studies of monkeys clearly showed that the species with which I am familiar "ride" one another as instinctively as do puppies. It seems to be a preparatory play in quite the same sense that the mock combats of young mammalians prepare them for the serious combats of adult life. Among male patients and normal adults I find quite definite and circumstantial accounts of a gradual extension, during childhood, of their preparatory play to include playing at being married. Country boys, with their early opportunities for acquiring an understanding, matter-of-fact attitude toward reproductive functions, do not seem to require any seduction by older fellows in order to engage in this play. According to some altogether frank and naïve reminiscences which I obtained during my rural studies they discontinue this kind of playing before they are old enough to have sexual emissions, and it does not seem to interfere with the development of normal heterosexual tendencies. Occasionally, however, a participant in such plays becomes permanently conditioned to derive sexual satisfaction from defecation

or even to seek males who will copulate with him per rectum. This, I believe, is of rare occurrence.

Not infrequently the young monkey offers himself to an older, stronger male as a purely defensive act, as I was able to demonstrate experimentally. Anal erotic homosexual patients not infrequently give accounts of similar behavior. *Case 7* of the survey affords an interesting example of this kind.

5. *Narcissism:* Freud,[117] in an interesting article on *Narzissmus,* attributes to P. Naecke[118] the introduction of this term to designate a form of sexual behavior in which the individual reacts to his own body as to a sexual object. The term was suggested, of course, by the myth of Narcissus. The young monkey's tendency to wander off by himself and devote a half hour or so to visual and manual inspections of his own body and its movements affords an interesting example of normal primate narcissism. The fur is stroked and examined, the genitalia minutely inspected, postures struck and visually inspected, and all sorts of pantomimetic activities exhibited during these periods of withdrawal from the tribe. This behavior is characteristic of the young monkey of both sexes.

Boys and girls exhibit the same tendency, and I believe that the facts justify the assumption that the young primate, whether human or infrahuman, delights in solitary inspections of its own body. Such behavior is not, in my opinion, primarily sexual except in this sense: the young primate's narcissism is teleologically related to his need of getting acquainted with his body as the future fighting machine, hunting machine, and, naturally, reproducing machine. The human subject's narcissistic tendencies are apt always to retain their identity in the behavior of the adult, and it is only under abnormal conditions that these tendencies come to dysteleologic expression in response to sexual stimulation.

I witnessed, not long ago, a series of esthetic dances by a mature woman and a number of young girls. The young girls seemed to be exhibiting their bodies in response to quite normal urges: their dancing was of the kind that lures the male and thus has a quite definite biologic value. But the mature woman seemed to be wholly oblivious to her audience, and to derive keen sensual delight from squirming about the stage in graceful poses and observing her own body thus in movement. Her dances would have had their full meaning had she danced in solitude. There was none of the beck-

oning, "come hither" play of facial expression that was an essential part of the young girls' performances. The mature woman was repellently narcissistic in her insolently self-sufficient attitude, whilst the young girls were wholesomely exhibitionistic. It was interesting to note that the former received her applause largely from the women in the audience, and that the next day the various men with whom I discussed the dance declared that she had bored them.

A young man who found economic obstacles in the way of marriage was in the habit of brushing his hair before a mirror as soon as he had dried himself after the morning bath. As he stood before the reflection of his naked body he would examine his smooth, glowing skin, firm, well-developed muscles, well-developed genitalia, handsome, intelligent countenance and abundant black hair. The thought would then come to him that he must bestir himself, make more money and marry while he still had the assets of youth to share with a mate. A vigorous erection and strong sexual feelings would then ensue, and he would hastily dress and begin his day with a keen determination to make good economically, and thereby make marriage possible. In his case the narcissistic tendency seems to have had a normal, biologic value. He made good rather early in his twenties, married and seems to have been as successful as a mate as he has been as a business man.

Women who have been widowed young or who have missed matrimony report episodes of narcissistic behavior similar to that of the young man, followed by intense longing to have their charms come into the possession of a mate.

When lack of personal capacity or charm, environmental obstacles or faulty development of the sexual instinct prevents marriage, the man or woman is in danger of passing from such episodes of self-adoration to masturbation, in which event the narcissism may become pervertedly overaccentuated and no longer of biologic value. Kempf's[114] generalizations are of interest in this connection:

"Narcissistic youths are common in almost every social gathering. They are characterized by their unusual admiration for their physical and personal attributes and their inability to make the sacrifices that are necessary to win the affections of others. They may make desperately grotesque, even criminal, attempts to establish their potency and attain the esteem of their associates, such

as the narcissistic seducer of girls who brags of his conquests in order to be considered potent." * * *

"An autoerotic narcissistic man or woman hates anything that tends to detract from personal beauty or self-indulgence, as the sacrifices of parenthood. He despises the drudgery of parenthood without realizing that it is because of its impositions on his self-love."

6. *Exhibitionism:* The primate is the only mammalian of which I have knowledge that breeds at any time between the female's menstrual periods. The female monkeys of my collection would take the males at any time excepting a few weeks which immediately preceded and followed parturition. *Whereas other mammalian females attract the male by their menstrual odors, the female primate seems to be dependent upon exhibition of her body and, particularly, of her genitalia.* I found that if I deprived a female monkey of her freedom and confined her in a cage from which she was visible to males she would croak invitingly to them and display her genitalia. Healthy, free males, when similarly confined would also resort to exhibitionism in an apparent effort to attract the females.

The human female takes so kindly to fashions which have an essentially exhibitionistic motive that one cannot doubt her possession of a tendency to lure the male by bodily exposure. Little girls are early taught to conceal certain parts of their bodies, but seem to find a substitute for bodily exposure in the display of pretty clothing. There is abundant clinical evidence to support the view that at some time during the first decade—usually between the third and seventh years—the little girl passes through a period during which she is strongly impelled to expose her naked body. *Cases 2* and *5* (Chapter II) disclose the possibility of a normal childish exhibitionism leading to later pathologic developments if the child has been conditioned to react to such behavior as to a serious disadvantage.

Any observer of boys' behavior in swimming holes under country bridges can find ample evidence of the tendency of the young male to expose his naked body to persons of the opposite sex. Fear of detection and punishment will usually deter a boy from doing any very shocking thing when a girl or woman arrives toward the bridge under which he is bathing without a bathing suit; but he and his fellows will engage in a good deal of bantering, and the

bolder ones will venture from under the bridge, utter cries to attract the attention of the approaching female and leap upward in the water as if seeking to expose their genitalia. More overt expressions of the young male's exhibitionistic tendencies are often seen from the observation platform of a train as it passes over a stream in which boys are bathing naked. They will shout, leap upward in the water and invite attention to their genitalia.

The biologic value of exhibitionism is obvious, and it is equally obvious that this component of the total sexual instinct may become so accentuated as to constitute a perversion. Direct responsiveness to an overstressed exhibitionistic urge is much less frequently encountered in seriously pathologic forms than is indirect responsiveness thereto.

7. *Curiosity as to the Sexual Structures and Behavior of Others:* The male monkey, on first encountering a small animal of which he is unafraid, such as a puppy, a kitten or a fox, tends to examine its sexual parts as soon as he finds that he can handle it without being bitten or scratched. Friendly dogs which were permitted to enter my laboratory yard almost always excited sexual curiosity reactions of any male monkeys that were present. The monkey would typically stand at the dog's rear, life up the animal's tail, peer closely at the anal region, then stoop down and look up at the penis and scrotum. Female monkeys manifested a similar reaction at times, but they seemed to be deterred somewhat by timidity and somewhat by a lack of curiosity.

Sexually immature monkeys that are free in the woods with mature monkeys may often be observed to leave their play or other activities and direct their attentions to the copulation of an older male and female. It is a matter of common observation that young children are apt to display a lively interest in the sexual parts of their parents. Unless the reminiscences of patients and normal adults are very misleading, the young child who occupies a bed in the same room with its parents is aware of and interested in their sexual activities far more frequently than is usually suspected. Women have told me that, as children, they were both fascinated and repelled by what they heard or saw under such conditions.

The biologic value of these primate curiosity reactions is as obvious as is that of any other reaction which acquaints the young

animal with objects and activities to which he must sometime make adjustments of one sort or another. Little girls doubtless derive an enormous amount of tuition from observing the household activities of the mother of the average family. Little boys are notoriously given to "tagging" and closely observing men who are engaged in useful occupations. It seems reasonable to assume that the tendency to observe the sexual organs and activities of other persons is part of the general tendency of the child to bring and hold itself into visual, auditory or tactile apposition to any stimuli to which the individual, as a member of its particular species, must typically make adjustments during adult life.

At an appropriate stage of sexual development the male primate derives sexual stimulation from seeing, touching and smelling the sexual parts of the female. It is then that the above-described more general tendency takes a specifically sexual direction. The sexually mature, free, healthy monkey frequently examines the female's accessible genital organs, peering and sniffing at them intently until a vigorous erection ensues and is followed by copulation. The morbid "peeper" seems to be an individual whose curiosity-component of the total instinct has become overstressed in its development, or who has become conditioned to substitute curiosity reactions for the complete heterosexual reaction.

8. *Incestuous, Matricidal and Patricidal Tendencies:* It is greatly to be desired that the psychoanalysts' rather speculative interpretations of symptoms which they ascribe to incestuous impulsions and the *"Oedipus"* and *"Electra"* complexes should be checked by appropriate experimental studies. I hope to carry out a plan for experimental observations of the intralitter and interlitter sexual behavior of rats or other multiparous mammalians, and thus to determine whether incest barriers are found in the reactive equipment of such animals. I was unable to breed a sufficient number of monkeys to be able to state with any degree of certainty whether these animals are influenced by an incest barrier or not. A brother and sister *pithecus-rhesus-irus* who were raised together in the woods were never seen to copulate with one another, although they engaged in this act with other monkeys. On the other hand, an old male who had been perverted in all sorts of ways by prolonged captivity attempted to copulate with his infant daugh-

ter at a time when she was uniformly unmolested by other males of the band.

Patients and normal adults who visited my laboratory were often curious to know the practical intention of my work with monkeys. They were told that the behavior of monkeys had a practical value largely because it betrayed human nature in a sort of naked and unashamed way. This occasionally led to a willingness to give me reminiscences of a kind which are usually difficult to obtain without a good deal of distorting directive questioning. From this material the following generalizations have seemed to be justified for presentation in the present paragraph:

The girl has, normally, flashes of sexual responsiveness to the maleness of her father or brothers. These flashes come unexpectedly, seem to be inhibited with automatic celerity and leave behind a briefly enduring psychic reaction (a horrid, shrinking discomfort) which is inhibited from continuation and recall. Women who are entirely naïve as to the theories and findings of psychoanalysis will sometimes give reports of such episodes without specific solicitation. Women patients, with their often fine appreciation of the importance of giving fearlessly frank accounts of their earlier adjustive difficulties, have supplied much valuable material of this kind. I have not infrequently been told by such a patient that her father, a brother or an uncle displayed more or less frequent overt responsiveness to her femaleness during her girlhood, in consequence of which there was a delay or lessening of her normal tendency to inhibit her own incestuousness responsiveness. In these cases there are apt to be developed, in the end, habits of indirect responsiveness to all exogenous and endogenous sexual stimuli, the patient's indirect reactions taking the form of hysterical or other seriously psychoneurotic symptoms. *Case 111* is of interest in this connection, and psychoanalytic literature abounds in well-studied cases in which the incestuous advances of a male of the family have played an important rôle in determining female psychoneuroses and psychoses.

Occasionally a woman reports that during her childhood she had daydreams during which the mother and sisters died, thereby leaving the dreamer in undisputed possession of the father or only brother. Much more frequently the mother's unhappiness over the sexual delinquencies of the father has led the little girl to react

inhibitively to her own sexual impulsions toward males in general, and to enter marriage sexually anesthetic.

Little boys seem normally to pass through a period during which they manifest overt jealousy reactions to the father as a rival for the mother's affections. A typical example came intimately under my observation when a certain small boy of five began to display resentment to the father's demonstrations of affection toward the mother by kicking the father's shins and exclaimingly reproachfully to the mother, "You don't love me any more—you love daddy better than you love me!" After a while he merely pretended to attack the father with injurious intent, and would threaten him with a toy pistol. Finally, he would stand at a distance and pretend to weep, saying "You don't love me" in a mock serious voice. All evidence of such jealousy disappeared as he approached puberty.

The fact that fratricidal tendencies are much less frequently exhibited by little boys than are patricidal tendencies has led me to suspect that the father's appearance on the scene as a claimant for the mother's affections at the end of a day or on holidays annoys the child largely because the father's presence has for him the reactive value of an outsider. The brothers and sisters are more or less constantly on the scene, hence the little boy is used to their qualification of his possession of her. It is significant that the little boy who has just been told that a new baby has arrived, and who is witness to the mother's absorption in the newcomer, is apt to demand that the rival be eliminated. I have known cases in which a new baby has had to be guarded against the little brother's hostility.

My previously published sexual studies[120] contain reference to the apparent equivalent of patricidal behavior in three young monkeys. They were three eunuchs who had attached themselves to a female baboon who, in turn, was one of a small band which included some males with whom the foster-mother habitually copulated. The eunuchs were unresponsive to the sexual claims made upon their beloved baboon by the familiar males of the band, but when an hitherto unfamiliar male baboon was given access to her and took advantage of her entire willingness to copulate with him the three ordinarily very timid little fellows fiercely attacked the stranger.

It is inevitable that persons of inherent or acquired poor balance should react indirectly to the flashes of incestuous, matricidal and patricidal impulsions which occur in normal life; but it is wise to proceed cautiously in ascribing important pathogenic values to such findings unless there is satisfactory evidence that the patient has become conditioned thereby to respond to primarily innocent exogenous and endogenous stimuli (normal sexual cravings, tender feelings toward a parent, a child, a brother or a sister, affectionate demonstrations on the part of such persons, etc.) as to stimuli having direct reactive values for incestuous, matricidal or patricidal responsiveness which must be rigorously inhibited and substituted for by symptomatic indirect reactions. The mere fact that the confessions obtained by skillful probing of a psychoneurotic or insane patient, the mannerisms and scattered talk of a schizophrenic or the wild self-denunciations of a depressed patient may be interpreted as revealing a history of childhood and adolescent indirect reactions to flashes of incestuous and related responsiveness is not in itself sufficient ground for exclaiming, as so many psychoanalysts do, "Ha! here is the explanation of this patient's disorder!" A good medical internist is very cautious in ascribing a given disorder to the specific etiology of a possible etiologic factor which has a nonpathogenic value for the majority of persons. Nevertheless, one finds a considerable number of noninstitutional patients whose adjustive dysfunctions seem to be traceable to what the psychoanalysts have in mind when they speak of the *Oedipus* complex.

I have found that among domestic animals which are kept in herds or flocks the inferior ones are apt to cling to the mother for protection and direction long after the normal period for detachment from her has passed. Castrated male sheep and cattle, but also uncastrated ewe lambs and heifer calves, seem sometimes to be the victims of a too long-continued assertion of the ewe's or cow's maternal instinct, and thus to grow toward maturity without having had need of fighting their way to a tolerable status as independent members of the flock or herd. Such animals are apt to manifest dysteleologic inferiority-reactions in adult life.

In human life we find naturally shy, socially insufficient children who are so overwhelmingly mothered that they never lose their infantile dependence upon the mother for protective domination.

These victims of the "terrible mother" are naturally handicapped in their struggles for sexual favor elsewhere than at home, and they typically seek substitutes in fiercely erotic daydreams which have for their central theme a person of the opposite sex with whom copulation is about to be had. At the appropriate moment of the daydream masturbation gives a touch of reality to the situation. My clinical experience leaves me no doubt that the male victims of the "terrible mother" often behave according to the descriptions of psychoanalytic writers, i.e., they alternate between outbursts of thinly disguised erotic demonstrations toward her and, according to individual temperament and training, either merely peevish or fiercely hostile demonstrations of hatred of her. But the majority of my cases who are victims of over-mothering present symptoms which have a somewhat different determination. The masturbating, phantasy-constructing, functionally inferior son or daughter reacts indirectly to his faulty behavior—particularly to the masturbation—by looking for a peg upon which to hang a sense of irritation or grievance, and the fussy, "bossy," overdemonstrative mother usually proves to be the most convenient peg. "Father fixations" seem to have a similar origin and morbid reactive value for sons if the father has been both overtender and too dominant. A harsh, too-dominant father is often responsible for compensatory alcoholism.

The shy, homely girl who craves the approval and affection of a male, and who has found favor in the father's eyes alone may have serious difficulty in inhibiting sexual responsiveness to the father as a male, with consequent liability to develop psychasthenic or hysterical symptoms.

While it is true that in the graver psychoses we find evidence of dysteleologic secondary reactions to incestuous and other "forbidden" reactions to the family situation (i.e., to parents, brothers, sisters, uncles, etc.), we are apt also to find evidences of failure of other prepubertal tendencies to develop into adequately functioning components of the adult reactive equipment for needful self-maintaining and race-maintaining adjustments. The prepossessions of the psychopathologist will direct his attention to a particular one of the many maldeveloped perpubertal tendencies unless he seeks the broadest possible perspective of behavioristic functions. While preponderatingly psychomorphic methods of interpreting

clinical facts are, in my opinion, undesirable in psychopathology, and seriously impair the value of Freud's work and render Jung's grotesque, it is the lack of an adequately broad behavioristic perspective that has led to some of the absurdities which are found in current psychoanalytic literature, and which repel the older psychopathologists who, like Dercum[121] and Mills,[122] refuse to render the service to psychopathology of which they are so eminently capable, viz., a retranslation of the advances effected by psychoanalytic methods into scientifically sound presentations. The adjustive insufficiencies of neurotic sons and daughters, their effectual but pathogenic domination by unwise parents, the unsuccessful partial revolts of unsuccessful sons and timid or unsought daughters against an abnormal prolongation of the child-parent relationship,—these factors, rather than badly handled incestuous, matricidal and patricidal tendencies are the important determinants of nervousness in the numerically most important class of patients with whom the extramural psychopathologist has to deal.

9. *Homosexual Behavior:* It is significant for an explanation of adult homosexuality that this inversion of the most important of all human instincts is more commonly encountered among men than among women, and that infrahuman primate homosexual plays are almost exclusively confined to the males of immature monkeys of the species thus far studied experimentally. My previously published *Study of Sexual Tendencies in Monkeys and Baboons*[123] sums up the results of a good many years of field and laboratory studies of infrahuman primate sexual behavior, but since there is not space for the inclusion of these studies here, reference will be made to only certain generalizations that are relevant to explanations of human homosexuality. The young male monkey plays at copulation with other young males much as he plays with them at fighting and hunting, but the female rarely displays this behavior at any age save as a defensive measure. In both sexes and at all ages there is an easily demonstrated tendency to respond to the aggressive approach of a larger member of the species by assuming the female position for copulation. When the aggressor and the defendant are of the same sex the smaller animal's behavior has the objective characteristics of homosexual submission, and one thinks of the aggressor, if he has attained mature years, as responding to a retained and dysteleologically developed homosexuality. But the

submission of the weaker one under conditions which often obtain when these animals are at large, and which can easily be arranged experimentally in the laboratory, is so clearly a defensive and not primarily a sexual act that one must give it a defensive rather than a sexual evaluation. Homosexual aggression on the part of males becomes so rare after maturity except in response to a *deceptive assumption of the female position for copulation* by a defensive weaker male that it seems justifiable to assume that the aggressor is reacting to stimuli which have, for him, a purely heterosexual reactive value.

The tendency of a weaker female to offer herself for copulation to an attacking female of the same species can be explained as possessing a purely defensive value. The rarely observed male copulative movements of the attacking female when she responds positively to this apparent invitation to play the rôle of a male are brief and perfunctory, but they suggest that the female possesses a feebly potent male copulative tendency. My experiences with spinster-to-spinster quasi-marriages had led me to expect much more frequent exhibitions of this kind of behavior on the part of female monkeys. Some of the most difficult clinical cases with which I have had to deal have been those in which two spinsters have fallen in love with one another, set up housekeeping together and acted as though they were truly mated, with exclusive spousal claims upon one another. In these cases one of the spinsters is apt to play the rôle of husband when their affections require grossly sexual expression.

Among boys homosexual plays are so frequently encountered that we are justified in assuming that this behavior is, in their case, the biologic equivalent of any other kind of preparatory playing. When endogenous stimuli begin to urge the boy toward the quest of opportunities for exercising the copulative function in a definite way he is apt to respond to the body of a boy-bedfellow as to a sexual object. We are apt to think of femaleness as an esoteric quality rather than as an integration of qualities, each of which has its share of sexual reactive value for the male. A soft, warm body, smooth skin, beardless face and similar physical qualities to which the male normally responds as to femaleness are often presented by boys as well as girls. During a period when the girls to whom a boy would naturally have access as sexual objects have not yet

reached the age of nubility it is biologically appropriate that he should find in his fellows qualities to which he can react as to femaleness. The existence of a play-tendency which inclines boys to take turns in assuming the female rôle is, I am convinced, demonstrable in their behavior for some time immediately preceding the inception of the period at which they have sufficient physical and mental development to enable them to compete for the possession of nubile females.

An evaluation of reliable adult male reminiscences and of a fairly extensive study of male human adolescent behavior leads me to believe that the boy does not normally submit to the sexual aggressions of adult males save as a defensive measure. At swimming holes the boy who will spontaneously indulge in homosexual plays with boys of his own age will hastily dry himself and dress on the approach of a much older boy or a man who is known to have made homosexual aggressions upon boys. His submission when he is caught unawares is clearly a defensive measure. Choir boys and boarding school boys who have been the victims of homosexual seductions by rectors or masters usually state that they submitted at first only through fear, and that it was only after several sessions that they became conditioned to react sexually rather than defensively to their seducers. It is not difficult to understand how a prepubertal tendency which has a preparatory value for adult sexual adjustments, and which normally lapses or becomes transformed for integration with other tendencies into the heterosexual instinct, may become over-accentuated and fixed as a true inversion by such seductions.

There is one point which my experiments and observations have brought out which deserves emphasis. Attention has already been called to the fact that the apparently normal adult male monkey responds to the deceptive assumption of the female copulative position by a weaker male as he would to similar behavior by a female of his species. A paralleled situation sometimes obtains, in my opinion, in the experience of the normally heterosexual adult human male. The male of our species has an inherent tendency to react to various physical qualities of another member of his species as to femaleness. These qualities are, of course, characteristically possessed by the female, and among adults by females alone; but they are also possessed, to some extent, by the adolescent boy. Ordi-

narily, the decent, normal male adult almost reflexly inhibits his responsiveness to any sexual stimuli which may not properly incite him to sexual behavior; but when, for any reason, such as unduly prolonged continence or an accession of altruistic concern for a boy with whom he has consequent physical contacts, such a male's inhibition of sexual responsiveness to boys is retarded, he is apt to have a moment of mental discomfort. A well-balanced, self-possessed man who is sure of his inhibitions will shrug his shoulders in philosophic acceptance of an inescapable tendency of his own make-up, and rest content with the fact that the necessary inhibitions assert themselves so promptly and effectually that no embarrassing overt behavior ensues. But there are men whose adolescent homosexual play-tendencies were unnaturally accentuated by unfavorable environmental factors, and who became pathologically conditioned to react indirectly to sexual stimuli derived from the femaleness of boys, whose adult reactions to such situations are seriously maladjustive. I have in mind the case of a boy who slept with a chum on a camping trip. One night *after they had fallen asleep* the boy who was afterward my patient rubbed his sex organ against his chum's buttocks so vigorously that he had an emission, and awoke to find himself making vigorous copulative movements with the chum as the object of his desire. The next day he was teased by his fellows and shamed by the man in charge of the camp. The man told him that he had done a beastly thing—a felony in the eyes of the law and an abomination in the sight of God. Thereafter he was painfully self-conscious whenever the games and pranks of his friends led to physical contacts with them, and for several years this youth, who had previously been a wholesome, spontaneous fellow, became hypochondriacal, seclusive and seriously deficient in self-confidence. At twenty-five he married, and during the next ten years his career was that of a brilliant, unusually successful man. Then, toward the end of his thirties, he began to fall out with his associates and to combat imaginary plots of imaginary enemies. Finally, a paranoic flight brought him to the Pacific Coast, where I had an opportunity to study his case. He dated his persecutions from a day, about three years before he came under my observation, when he and a boyhood friend revisited the swimming hole of their youth and were joined by some lads who bantered them to engage in the splashing and ducking that is an essential part of the

fun at swimming holes where boys need no sort of bathing suits, and good-natured tests of strength and agility are engaged in. Investigation disclosed that the patient neither did nor said anything even remotely suggestive of homosexual desire during this episode; but he ultimately admitted that he had had flashes of tardily inhibited responsiveness to the femaleness of the boys' bodies during some of the tussling and ducking. Shortly after this visit to the swimming hole the patient began to find evidences that enemies were spreading rumors to the effect that he was a sexual invert. It was very evident that his persecutory delusions were indirect reactions to stimuli which had a primary reactive value for the production of intolerably painful awareness and disadvantageous behavior.

He obtained sufficient insight to enable him to return to his home and usual occupations, but he never overcame his tendency to make suspicious misinterpretations of insignificant happenings.

I do not feel qualified to offer a behavioristic explanation of homosexuality in women, in other than a rather general and speculative way, because I have lacked opportunities to study their adolescent homosexual plays save in a quite casual way. The ardent embracings and kissings of young girls, and accounts which are obtained from mature women as to the frequency with which boarding school girls ride one another erotically in bed, suggests that what has been said concerning the homosexual plays of boys obtains for that of girls. The effusive demonstrations of affection which adult women lavish upon one another and the greater frequency of female than male homosexual marriages may signify that the female tendency to inhibit and react indirectly to homosexual urges is less potent than that of the male. This possibility finds further support in the fact that paranoid and anxiety types of indirect responsiveness to homosexual stimuli are much less frequently encountered in women than in men. My own clinical experience with paranoid reactions in women has been limited to a relatively small number of cases during the past fifteen years, and the most frequently encountered apparent determinants of these patients' adjustive reactions have been referable to the more or less accidental development of oral-erotic habits which became intolerable and were abandoned.

10. *Fetichistic Behavior:* The tendency of mammalians in general to react to a part of a stimulating object as to the whole finds a

great variety of expressions. A kitten which has not yet opened its eyes, and which has never had contact with dogs, will spit and slap at your hands when you pick it up if you have recently fondled a dog. A male dog, in passing a puddle of urine voided by a female in heat, will display marked sexual excitement, lap the urine and even make copulative movements over it. The hat or glove of an absent master may be used as lure to catch his dog's attention. The mother reacts to her dead baby's cast-off shoe as to the baby itself, and the lover thrills at the sight of his absent mistress' glove. It is not surprising, therefore, that enforced continence, inferiority as a competitor for sexual favors, etc., may result in the conditioning of an unstable person to react to an inanimate object as to a complete sexual object. The absurdities to which an overdeveloped fetichistic tendency will lead the victim of this maldevelopment are often both disgusting and amusing. One of my patients, who had conceived a violent passion for an unattainable woman, managed by a considerable exercise of ingenuity to secure several ounces of her urine. He drank it with great gusto, and declared that it had an ambroisal flavor.

11. *Masochistic and Sadistic Behavior:* The primate virgin must submit to overpowering by the male and a painful destruction of tissue (the hymen) in order to conceive. The male must overpower the virgin and inflict pain upon her if he is to impregnate her. The resistance of the female is apt to lead her to inflict pain upon the pursuing male, so that he must not only be sadistic but masochistic. Successful mating would be impossible if the bites, blows, scratches and similar activities of a mating couple elicited purely defensive or aggressive reactions. It is essential that they have value as sexual stimuli and augment the specifically copulative impulse. Even the female must be sadistic as well as masochistic, else her reactions to the aggressions of the male might end in purely retaliatory behavior.

Sadistic behavior appears in the male monkey when he begins to acquire the adult strut and to abandon prepubertal homosexual plays for heterosexual aggressions. There are certain conditions under which the adult male chases and bites or otherwise mistreats the female:

Although *pithecus rhesus* and *pithecus irus* seem to be sexually promiscuous, they clearly disclose a tendency to establish enduring

monogamous unions. I do not know whether these animals are promiscuous or not in their native jungles. I found that if a male and female which had previously formed a monogamous union were caged together they copulated with almost incredible frequency during the first few days of their captivity, and without preliminary chasing and biting on the part of the male; but that after several days the male became definitely sadistic. Not only chasing and biting, but any mistreatment which evoked pain reactions in the female would be followed by a sufficiently rigid erection in the male to enable him to perform the sexual act. One trick of the male was to hold his mate and pinch and pull her eyelids until she squeaked as if in pain, whereupon he would exhibit sexual excitement and copulate with her. Experiments of this kind suggested that when the male was deprived of a normal number and variety of nonsexual satisfactions by confinement he fell back upon a too exclusive dependence on sexual satisfactions, and that the normal tendency to seek variety of stimulation found an outlet in varying, sadistically and otherwise, his sexual activities.

If a male had been confined with his mate for some time, and had been dependent on sadistic treatment of her as a preliminary to copulation, his removal to another cage and confinement therein with an unfamiliar female resulted in a prompt but temporary abandonment of sadistic behavior. For the first few days he would copulate with the new mate with great zeal and frequency, but after that he would resort to sadistic preliminaries. If he were not returned to his original, voluntarily selected mate he would now be sadistic toward her for several days.

It was of interest that although both the male and the female, after they had been caged together for some time, ceased to stimulate one another sexually as they were stimulated by new cage companions of the opposite sex, mates of a voluntarily established union who were thus separated would persistently call to one another and, if they were in adjoining cages, nestle against one another through the separating wire netting. When mates who had been separated for a few days were restored to one another they would rush into a face-to-face embrace (this is not the copulating position for monkeys) and utter sounds which are characteristically uttered by all monkeys when a disadvantage has been overcome or escaped.

The above observations and studies of the human species support the view that there is a mating tendency which can and often does function separately from the tendency that leads directly to copulation. The adolescent boy who indulges in erotic daydreams and exerts a vast amount of energy and ingenuity in seeking to gratify his heterosexual cravings, has preferences as to the girls with whom he would like to copulate; but unless he has been considerably perverted by unfavorable environmental factors he experiences a longing to establish an alliance with a girl which shall be enduring, and which has, initially, no reportable tinge of desire to copulate with the object of such a longing. Once a particular female becomes the object of his monogamous urge he does not at first react, even physically, to her as to a female with whom he desires copulation until an engagement or its equivalent and the consequent demonstrations of affection lead to physical contacts which act as specific incitants to breeding.

The "pure love" of girl for boy and boy for girl is often derided as a figment of the poet's imagination, but I have been convinced of its normal occurrence by studies of relatively uncorrupted descendants of pioneer Scotch, Scotch-Irish, English and German settlers in the country of my survey. The country boy of the better class accepts his heterosexual urges rather philosophically, and expects his father to wink at intrigues with girls who, in an older, more sophisticated society, would be regarded as possible mistresses. A boy of this class will tell you, when he first falls in love with a particular girl, "I do not think of her that way at all (meaning that he does not think of her as a female with whom to desire copulation). I have always hoped to find a girl toward whom I could have only pure feelings, and I have found her." During my own boyhood in the country there was a myth to the effect that if one fed a girl candy which had been secretly treated with cantharides she would wildly solicit copulation with the donor of the candy, no matter how virtuous she might normally be. We boys half-believed this myth, and dallied with the thought of putting it to the test. One of my chums, a youth of about twenty, fell violently in love with a girl of his own class, and in describing his feelings toward her declared with great earnestness that if, by accident, he were to feed her cantharidal candy and thus cause her to writhe at his feet soliciting copulation he would have only

pure feelings toward her, and would protect her against herself. I have adequate grounds upon which to base the statement that when boys of this type entertain romantic daydreams with reference to a dearly-beloved, possible mate there is no attending erection.

The above observation is relevant to a generalization which I wish to offer here. When the mating instinct leads to a conventional marriage, and religious, economic, legal and conventional restraints almost literally lock the two mates together in a cage they cease, after a time, to stimulate one another adequately in a sexual way. I do not believe that it is a mere coincidence that two experimentally caged monkey-mates behave toward one another in a manner which is suggestively equivalent to the behavior of human mates toward one another when the latter are shut in together by the circumscribing agencies just alluded to. After a time most husbands and at least some wives would like to be sexually promiscuous, even though they may never yield to this desire. I have encountered only a few cases of gross spousal sadism or masochism, and in these few cases there has been evidence of prepubertal or pubertal overdevelopment of one or both of these tendencies. But like all psychopathologists whose patients are largely drawn from the ranks of those who are in pursuit of the usual occupations of life, I encounter a great deal of nervousness among married people whose infelicities strongly suggest the functioning of tendencies to fall back upon the infliction and endurance of pain as a mode of augmenting the artificially reduced sexual reactive value of one spouse for another. "He fusses me, finds fault with me, flies into a rage with me and seems to have no other motive for all this but a desire to make me suffer—and then expects me to be his obliging mistress a moment later," was the statement of a nervous woman whose persistent, nonadjustive, affective reactions to her husband's unamiable behavior were the outstanding features of her illness.

Men are less willing to discuss the details of their sexual lives at home than are women, but one sees an occasional nervous husband whose accounts of maladjustments to spousal unamiability include reference to apparently masochistic behavior on the part of his wife. The wife in these cases seems to excite her husband's anger as a preliminary to copulation with him. One husband's interpretation of such behavior was, "After she has so irritated me that I fly into

a silly rage she tries to appease me by offering me her body—and I fall for it."

I do not mean that the above generalization shall imply that the majority of cases of marital friction have their instinctive roots in a tendency to augment spousal sexual desire by resorting to sadistic and masochistic equivalents; but among people with whom wife-beating is taboo and who find promiscuous sexual relations inexpedient or contrary to personally held standards of conduct, a verbal fight is traditionally apt to end in a reconciling copulation. A common roof, common financial interests, enforced companionship, a narrowing of the range of obtainable satisfactions and all else that so often goes to make matrimony a more or less hateful captivity in our present civilization inevitably reduce the sexual reactive value of spouse for spouse. The male monkey who is caged with his mate increases her sexual reactive value for him by chasing and biting her, or pinching her eyelids until she squeaks with pain. The modern husband "starts something"—lashes himself into a rage against his wife—then makes it up after they retire for the night. In either case we find a perverted functioning of a tendency which is a valuable part of the primate reactive equipment only as it functions (1) to enable the primate male to pursue, capture and deflower the primate virgin without dealing with her as an enemy to be destroyed; (2) to prevent the female from fully reacting to such aggressions as to those of an unqualifiedly hostile fellow, and (3) to insure the establishment and continuation of an alliance between potential common parents of future offspring in spite of the virgin's torn hymen and the bites and scratches which she inflicts upon her wooer during the first sexual encounter.

One usually obtains an interesting history from the grossly perverted individual for whom the infliction or the suffering of physical pain is an essential part of the sexual act or a complete substitute for it. In my experience the most frequently encountered pubertal and prepubertal factors that make for a later developed perverted accentuation of sadistic and masochistic tendencies are traceable to the bullying of boys by one another. Field studies of this behavior have led me to recognize two *types of bullying:* boys bully one another to improve their social standing in the tribe, but they also indulge in objectively similar behavior in response to definite sexual urges. If a sufficient number of boys whose ages range from ten to

sixteen years are turned loose together at a swimming pool where bathing suits are not required, and where they are unaware of the presence of an adult observer, bullying on the part of some of them will appear to be a purely social act, but the observer is apt to find that here and there a boy will cruelly bully one of his fellows and invariably have an attending erection. And the one who is bullied, who may be vigorously protesting against such aggression, may occasionally be observed to respond to the bullying by manifesting an erection. Three of the worst sadists that I have known—men who are almost homicidal in the ferocity of their sadistic aggressions—were fearless and unconquerable bullies before they arrived at puberty, and after puberty they were a menace to the safety of the smaller boys with whom they had contacts. These three men are brothers, and in each case the young bully complained that girls were indifferent to him. One of the bullies boasted that it gave him a vigorous erection to "beat up" a less powerful fellow, and that at times he would have an emission during such an episode. His favorite victim finally confessed that he, too, derived sexual satisfaction from the one-sided fights in which he was always the bullied one. After he and his tormentor were separated by the removal of the latter's family from the town in which they had both lived the victim established an alliance with a much older man who was a notorious sadist.

Women have reported to me that as children they derived a certain degree of sexual satisfaction from the half-playful, half-serious hair-pullings and pinchings to which they were subjected by boys and other girls. One child naïvely informed me that the parental spankings were enjoyable if they "hurt only a little," and another child (a boy) who came under my observation was in the habit of soliciting spankings, stipulating that the blows increase in severity until they "hurt too much." In the days of the district school, with its twenty-dollars-a-month young-girl teacher, country boys would deliberately incite the school ma'am to beat them and would boast that it "felt good." A man of my acquaintance reported that as a small boy he discovered, while lolling upon the floor one hot day with only his dog as a companion, that if he alternately beat and caressed the animal both he and his dog had consequent erections.

12. *Masturbation:* My studies of infrahuman primate behavior extended over a period of nearly nine years, and during that time I did not once observe a normal, free monkey in the act of masturbation. Captive monkeys of both sexes are apt to masturbate, and a male which has long been caged is apt to indulge in this habit after he has been given a mate and his freedom.

It is popularly supposed that adolescent boys naturally tend to masturbate, but my observations lead me to regard this act as always reflecting the operation of pathogenic factors. Boys who have not been taught to masturbate by other persons, who have been taught to retract and cleanse the prepuce regularly, who have been given full and truthful answers to their childish questions as to how babies come into the world, who are encouraged to believe that they will find no serious obstacles in the way of early mating, and who have reactive equipments of average adequacy and balance do not, in my experience, tend to masturbate. It is my opinion that boys who have been neither shamed nor frightened with reference to this habit are normally inclined to avoid it as they avoid various other possible but unbiologic substitutes for inherently craved satisfactions.

The not infrequently encountered cases of masturbation among children under six years of age will usually be found to be due to seduction or to peripheral irritations which have invited rubbing of the sexual parts. There are cases, however, in which masturbation seems to be a primary response to endogenous sexual urges. Havelock Ellis[124] expresses the opinion that the normal child is not apt to masturbate when it is not subjected to such physical irritations as worms, uncleanliness and tight clothing, and that it cannot easily be trained to do so by companions who have this habit. He regards masturbation in the young child as very strong evidence of defective nervous development or bad heredity. I do not believe that the bare facts of observation, unsupported by the interpretative distortions of those who have hypothetical axes to grind, justify the assumption that masturbation reflects at any age the functioning of a normal component of the primate reactive equipment.

Masturbation in adolescents of both sexes, in men of all ages from puberty to extreme old age and in women until they are well past the menopause is much more frequent than the average layman suspects. The fact that it is popularly regarded as a youthful bad

habit in which only rare and perverted adults indulge is responsible, to some extent, for its harmfulness in adult life. The adult masturbator feels that his (or her) habit is, if not unique, at least common to only weak-willed, lustful, shameless persons.

The most common determinants of this type of maladjustment to endogenous sexual urges are to be sought, of course, in the masturbator's inferiority (due to immaturity, social awkwardness, lack of personal charm, domination by a parent, etc.) as a competitor for sexual favors or in conditions external to his own make-up which throw him back upon this habit as a safe and always accessible mode of satisfying the urge to copulate. Masturbation thus determined is not usually difficult to detect, and its proximate causes are not difficult to trace. But there is a type of individual who is above the average as to capacity for obtaining sexual favors in whom this habit may develop and continue for years without detection, and with serious consequences. A study of these cases throws light upon sexual maladjustments of all kinds. Discussion of this point has been reserved for the following paragraphs, with which the present chapter and the book are brought to a close.

The primate reactive equipment remains adequate to the needs of the organism only as its various functions are given a normally proportioned exercise. These functions are, of course, more or less in interactive relationship with various environmental changes, and are set in operation by such changes; but their proportionate activities are importantly determined by endogenous stimulations (urges—cravings—aversions) which normally call for a considerable variety of satisfying activities. These satisfying activities, or to employ a more convenient, if somewhat psychomorphic term, *satisfactions,* can be had in adequate variety and proportions only as each component or function of the total reactive equipment has its proper development. Among infrahuman primates who lead free lives in the woods the pursuit of no one satisfaction is found to predominate. The same, I believe, is true of fairly normal human life. Sex-hunger is not, in any proper sense of this much misused term, the apparent mainspring of anything like a major part of the normal infrahuman primate's activities, and I do not believe that the case is otherwise with human activities. Deprive the monkey of opportunities for obtaining a normal variety of satisfaction by caging him, and he becomes abnormally dependent on sexual satisfac-

tions. The same is true of the human subject, the cage, being in his case, functional inferiorities (as defined by Kempf), inherent insufficiencies and, most important of all, environmental influences which lead him to an *over-valuation of sexual satisfactions.* Just as an individual may be seduced to an over-valuation of the satisfactions derived from gambling, drinking, athletics, money-making, social advancement or purely intellectual pursuits, so may he be seduced to an over-valuation of sexual satisfactions. Once an individual fixes a habit of focussing his activities upon the pursuit of any one kind of satisfaction to such an extent that he remains relatively unresponsive to current possibilities for obtaining healthy measures of the other satisfactions that characteristically enter into the lives of the individual members of the human species, he becomes a perverted thing. *The tendency to seek variety of stimulation to which attention was called in a previous chapter insures that the individual who stresses sexual satisfactions almost to the exclusion of all other kinds of satisfactions will seek dysteleologic variations of sexual stimulation.* The artist or actor or musician or poet who makes sexual satisfaction his one great value in life is apt to tire of mere spousal indulgences, then to tire of promiscuous but otherwise normally heterosexual indulgences, and, finally to seek variety of sexual stimulation in one or both of two main dysteleologic directions. In one of these directions we find all sorts of perverted sexual relations with persons of the opposite sex or else homosexual activities. In the other direction we find, even in artists, actors, musicians and poets who are much sought after by persons of the opposite sex, a gradually increasing preference for the almost unlimited possibilities contained in erotic phantasy—construction, with masturbation as the climax which gives reality to unrealities. Ben Hecht's[125] *"Fantazius Mallare,"* for all its filthiness, is a classical presentation of the logical termination of an exclusive pursuit of sexual satisfactions as the only values of life and of a related pursuit of variety of stimulation by seeking a complete withdrawal from reality, including, even, masturbation. His hero, Mallare, sought to repudiate everything that he could not create with his own imagination. Hecht's adoption of the Freudian thesis that sexual desire is, generically, the original source of all human action finds a less phantastic presentation in his novel, *Gargoyles,*[126] and it impresses me, in spite of its gruesome repudiation of all that is

lovely in human nature, as a far more honest and logical account of man and his ways than anything that I have thus far encountered in psychoanalytic literature—*if we assume the validity of Freud's underlying, unexpurgated thesis.*

The psychoanalyst seeks to eat his cake and have it too by introducing the concept *sublimation.* He assumes that quest of sexual satisfaction remains, generically, the primitive mainspring, but that it is capable of undergoing transformation (by sublimation) into quests of nonsexual, altruistic ends, comparable to the transformation of the potential energy of the coal in the city power house into the useful glowing of the electric-light bulb in your table lamp. *The fact that many activities are legitimately interpretable as indirect reactions to sexual urges seems to have deceived contemporary psychopathologists into accepting their very limiting and misleading concept of sublimation.* Any sort of ontogenetic or phylogenetic perspective ought to remind the psychopathologist that a turning from the quest of sexual satisfactions, probably means in man, normally, just what it means in animals, viz., a direction of activity towards self-maintaining ends or towards *nonsexual* race-maintaining ends. That there are nonsexual race-maintaining activities and, presumably, corresponding nonsexual satisfactions is apparent, once we discriminate between specifically race-producing and the more general race-maintaining activities of animals. When a flock of crows alights in a cut-over meadow to feed upon grasshoppers, sentinels post themselves at strategic points. These sentinels may not, surely, be regarded as engaging in activities which are classifiable, from a physiologic or behavioristic or even psychologic standpoint, as specifically sexual or race-producing. Fighting for leadership, strutting, courting, nest-building, copulating and caring for the young, along with many other related activities reflect, of course, certain integrations of autonomic, endocrine and other somatic functions which are physiologic components of obviously sexual or race-producing behavioristic functions.

The psychoanalytic concept of sublimation, by confusing direct responsiveness to cravings for all sorts of nonsexual satisfactions with indirect responsiveness to inhibited sexual urges, has encouraged literary opportunists who take their cues from psychoanalytic literature in stressing the all-importance of the sexual instinct and of sexual satisfactions, often, probably, because this is in line with

their own inclinations, but in many cases because they have been misled. If the uprising generation is told that thriftily saving money or defending the property rights of others or inventing new things or attacking evil customs are mere sublimations of psychical energies which were initially directed toward obtaining the satisfactions derived from anal eroticism, imaginary father-castrations, incestuous activities, demonstrations of sexual virility and finally achieved heterosexual successes they will have, it seems to me, a very poor philosophic substitute for a truly biologic outlook on life.

GLOSSARY OF UNFAMILIAR TERMS

Acroparesthesia. A disease marked by attacks of stiffness and numbness of the extremities, without pain or paralysis. (Dorland.)

Affective. Pertaining to feeling.

Amenorrhea. Lack of menstruation.

Amnesia. Loss of memory.

Anesthetic. Without sensation; also refers to any drug which produces loss of sensation.

Angioneurotic Edema. A disease in which there are freakish swellings of the skin or, occasionally, of the throat. The swellings come abruptly, and are supposed to be due to some disturbance of the blood vessel nerves.

Ankle Clonus. A jerking spasm of the ankle produced by forcibly stretching the Tendon of Achilles. Not usually found except in organic diseases of the central nervous system.

Anorexia. Loss of appetite.

Aphasia. Loss of expression by speech, due to injury of the brain.

Argyll-Robertson Pupil. A disorder marked by failure of the pupil of the eye to contract when exposed to strong light, without loss of capacity for contraction and expansion in response to change of gaze from far to near.

Arthritis. Inflammation of a joint.

Arthropod. Animals like insects, lobsters and spiders, which have jointed limbs.

Ataxia. Failure of muscular coordination. (Dorland.)

Automorphic. Pertaining to explanations of another person's behavior in terms of one's own mental processes.

Axilla. The arm pit.

Basal Metabolic Rate. Pertaining to the changes produced in food by the action of the bodily cells upon it—a measure of such changes when the body is at rest, but neither sleeping nor digesting food.

Bradycardia. Abnormally slow heart action. Slow pulse.

Bulbar Conjunctiva. The outside covering of the eyeball.

Bulbar Paralysis. A disease of the medulla oblongata, marked by wasting of the muscles of the lips, tongue, mouth and throat.

Carcinoma. Cancer.

Cardiac. Pertaining to the heart.

Cervical. Pertaining to the neck.

Cholecystitis. Inflammation of the gall bladder.

Cholecystectomy. Removal of the gall bladder by operation.

Cholelithiasis. Gallstones.

Claustrophobia. Morbid dread of being shut up in a confined space. (Dorland.)

Clavicle. The collar bone.

Conative. Pertaining to effort on the part of the organism.

Copulation. The sexual act.

Corpus Luteum. A yellow mass in the ovary which is left after an ovum has been discharged. A medicine made from such a mass.

Coryza. An acute head cold.

Cryptic Infection. An infection which is concealed, and does not discharge its toxic products upon open surfaces.

Cyanotic. A grey-blue color, such as is observed in the face of a person who is strangled.

Cystitis. Inflammation of the bladder.

Decompensation (of the heart). Failure of the heart to compensate for leaking valves by increased vigor of action.

Diastole. Usually refers to that stage of the heart's beat when its ventricles dilate.

Dorsal. Pertaining to the back.

Dysmenorrhea. Painful and difficult menstruation.

Dyspnea. Shortness of breath.

Dysteleological. Pertaining to anything which works toward undesirable ends.

Ectopic Gestation. Pregnancy outside the uterus.

Endocrinopathy. Disease of one or more glands of internal secretion.

Endocrinology. A branch of physiology which is devoted to the study of the glands of internal secretion.

Endogenous. That which arises within the body and as a result of its own activities.

Entomostracan. A low form of crustacean.

Epigastrium. The region over the stomach.

Euphoric. Pertaining to a sense of well-being. Used in psychopathology to designate sense of well-being not justified by the patient's actual condition or circumstances.

Exhibitionistic. Pertaining to a tendency to exhibit one's own body, and particularly the sexual parts, as a means of obtaining sexual gratification.

Exogenous. That which arises outside the body.

Exophthalmos. Protrusion of the eyeballs.

Extraversive. Pertaining to a temperamental tendency to think, feel and act directly with reference to external events rather than to make one's own thoughts and feelings the starting point for what is thought, felt and done about external events.

Fastigium. The height of any activity, such as the height of fever or of other symptoms of a disease.

Femur. The thigh bone.

Fetichistic. Used in psychopathology to designate a tendency to find lustful satisfaction in an object which once belonged or now belongs to a beloved person.

Free Associations. Thoughts which come unbidden in response to a stimulus word, once the subject seeks to avoid all inner resistance to a developing train of awarenesses.

Gastroenterology. A special branch of internal medicine which deals with disorders of the digestive tract.

Glaucoma. A disease of the eye marked by intense pain, and final blindness in most cases.

Glycosuria. Sugar in the urine.

Graves' Syndrome. Exophthalmic goiter. Also popularly known as "inward goiter."

Hebetude. Used in psychopathology to designate mental heaviness and a lack of responsiveness to current happenings.

Hemiplegia. Paralysis of one side.

Hepatic. Pertaining to the liver.

Heterosexual. Descriptive of one whose sexual desires are directed toward persons of the opposite sex.

Histology. A branch of science which deals with the minute structure of plants and animals.

Homosexual. Descriptive of one whose sexual desires are directed toward persons of the same sex.

Hymen. The maidenhead (of a virgin).

Hyperidrosis. Excessive sweating.

Hyperthyroidism. Excessive secretion of the thyroid gland.

Hypophysis. A gland of internal secretion which lies within the skull; the pituitary gland.

Hypothyroidism. Insufficient secretion of the essential product of the thyroid gland.

Inhibition. A checking of an organic activity. If this term were applied to motoring one would say that the chauffeur *inhibits* the forward movement of the car when he applies the brakes.

Intrasomatic. Within the body.

Iritis. Inflammation of the iris of the eye.

Korsakow's Syndrome. A disease marked by inflammation of nervous substance, pain and tenderness of the bodily surface, irregular loss of memory and a tendency to fill in forgotten periods with fictitious experiences. It is usually due to alcohol, but is sometimes secondary to measles or other infectious diseases.

Laparotomy. Any operation which involves opening the belly.

Lateral Sclerosis. A degenerative disease of the spinal cord, marked by stiffness and painful spasms of legs or arms, or both.

Leucocytosis. An increase in the number of white cells in the blood.

Locomotor Ataxia. A syphilitic disease of the spinal cord.

Lumbar. Pertaining to the small of the back.

Masochistic. Descriptive of one who derives sexual satisfaction from pain inflicted by another person; occasionally a masochistic person derives sexual pleasure from self-inflicted pain.

Mastoid. Pertaining to that part of the temporal bone which lies back of the visible part of the ear.

Mediastinal. Usually refers to that part of the chest cavity which lies between the two lungs.

Ménière's Disease. A disease of the semicircular canals of the ear, marked by persistent vertigo.

Menopause. The "change of life" in women.

Menorrhagia. Excessive flow of blood during menstruation.

Metrorrhagia. Hemorrhage from the womb.

Mitral Insufficiency. Leakage of the mitral valve of the heart.

Morphology. A branch of science which deals with the structure of plants and animals.

Multiparous. Refers to animals which bear their young in litters. Also refers to a woman who has borne more than one child.

Multiple Sclerosis. A degenerative disease of the central nervous system, marked by weakness and incoordination of the limbs, jerking movements of the arms, scanning speech, rolling movements of the eyeballs and an irregular course. Not all of these symptoms are necessarily present in a given case.

Myocardial. Pertaining to the heart muscle.

Myxedema. A condition due to disease or absence of the thyroid gland, with consequent lack of thyroid secretion.

Narcissistic. Descriptive of a person who derives sexual pleasure from contemplating his own body or personality, self-loving.

Neurobiotaxis. Shifting of nerve cells toward the point whence the stimulus proceeds to the cells. (Dorland.)

Neuropsychiatry. A branch of medicine which deals with mental disorders.

Nephritis. Disease of the kidneys.

Neuroendocrine. Pertaining to the nervous system and the glands of internal secretion, considered as interactive and mutually reinforcing.

Nosology. The classification of diseases.

Nystagmus. A symptom which consists of involuntary rolling of the eyeballs.

Ocular Fundus. The back of the eyeball and the beginning of the optic nerve.

Olfactory. Pertaining to the sense of smell.

Ontogenetic. Pertaining to the development of the individual.

Organotherapy. Treatment of disease by administering the glands of animals.

Orthopnea. A condition which is marked by inability to breathe easily save in an upright position.

Osteoarthritis. Inflammation of a joint, including the bones that enter into its structure as a joint.

Panhysterectomy. Removal, by operation, of the womb, ovaries and connecting tubes.

Paresthesia. Morbid sensation. such as tingling, prickling or a sensation of ants crawling over one's skin when no external stimulating agency is responsible for such sensation.

Parturition. Giving birth to a child.

Patella. The knee cap.

Pathogenic. Productive of disease.

Peripheral. Pertaining to that region of a structure which is farthest situated from the center of the body or of the organ of which it is a part.

Phylogenetic. Pertaining to racial development.

Pithecus Irus. A small, greyish monkey with a long tail; a species which is not native to any part of the New World.

Pithecus Rhesus. A small, brown monkey with a stubby tail; a species which is not native to any part of the New World.

Poliomyelitis (acute anterior). Infantile paralysis.

Polyneuritis. Inflammation of the nerves that supply the surface of the body.

Prepuce. The hood of skin and mucous membrane which covers the head of the male sex organ.

Presystolic Murmur. A heart murmur which is heard just before the sound made by the contraction of the heart ventricles.

Prolapsus Uteri. Falling of the womb.

Prostate Gland. A gland which surrounds the neck of the male bladder.

Pruritus Vulvae. Persistent itching and burning of the female external sexual parts.

Psychomorphic. Pertaining to explanations of behavior in terms of inferred mental activities.

Psychomotor Inadequacy (subjective). A sense of being unequal to meet demands which call for mental and physical effort.

Psychoneurotic. Inability to control and direct mental processes, unattended by loss of sanity as this is ordinarily defined.

Psychosis. A term applied to any form of insanity.

Pulmonary Apex. The top of the lung.

Pyosalpinx. A collection of pus in the tube that leads from an ovary to the womb. This condition is generally due to gonorrhea.

Renal. Pertaining to the kidneys.

Retroversion (of the womb). A tipping backward of the womb.

Sacral. Pertaining to the lower part of the backbone.

Sadistic. Descriptive of one who derives sexual pleasure from inflicting pain upon another person or upon an animal.

Sarcoma. A malignant tumor other than a cancer, but with the same tendency to grow and to return after having been removed.

Schizophrenic. Literally, "split-mindedness"; descriptive of a mental disorder which is marked by a failure of the personality to function as a unit.

Serologic. Pertaining to the blood serum or to a special branch of medical research which deals with the physiology and pathology of blood serum.

Sigmoidoscope. An instrument which enables the surgeon to make a visual examination of the sigmoid flexure of the large intestine; it is inserted through the anus.

Sinus Arhythmia. Irregular action of the heart, due to a disorder within the heart wall.

Sinus Infection. Usually refers to infection of one or more of the bony channels which drain the facial part of the skull.

Somatic. Pertaining to the body.

Spastic Colitis. A disorder of the large intestine, marked by spasm of its muscular wall.

Stethescope. An instrument which conveys sounds from within the body (such as the heart beat, the breathing sounds of the lungs, etc.) to the physician's ear.

Syndrome. A group of symptoms which more or less typically occur together.

Tabes. An abbreviation of the term *Tabes dorsalis:* a syphilitic disease of the spinal cord, also known as *Locomotor ataxia.*

Tachycardia. Abnormally rapid heart action. Rapid pulse.

Teleological. Pertaining to that which deals with the end or purpose of a phenomenon.

Therapeutic. Pertaining to the treatment of disease.

Thymus. A gland which is found behind the front of the chest wall of children.

Thyroidectomy. Removal of a portion of the thyroid gland by operation.

Thyrotoxicity. A toxic condition due to faulty and excessive action of the thyroid gland.

Urethroscope. An instrument which can be thrust into the male urethra (the channel from the bladder to the head of the male sex organ) and so illuminated that the surgeon can examine this channel.

Uterus. The womb.

Vaginismus. Spasm of the vagina.

Vasa Deferentia. Ducts which lead from the testicles.

Ventral. Pertaining to the front or belly aspect of the body.

Wassermann Test. A blood test which usually reveals the presence or absence of syphilis.

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